

MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY

I.—MR. BRADLEY'S DOCTRINE OF KNOWLEDGE.

BY E. H. STRANGE.

THE starting-point of Mr. Bradley's doctrine of knowledge seems to be the fact of feeling. In the first place, Mr. Bradley assumes that in feeling I do touch reality, and I touch reality only in feeling. Feeling alone is direct, feeling alone is given and not constructed from the given. "Experience may mean experience only direct, or indirect also. Direct experience I understand to be confined to the given simply, to the merely felt or presented. But indirect experience includes all fact that is constructed from the basis of the 'this' and the 'mine'. It is all that is taken to exist beyond the felt moment" (p. 248).¹ Feeling is the basis and pre-supposition of all mental advance, and that which persists as the background of all mental advance and gives our constructions actuality. It may be fleeting and fluctuating, and it may be difficult for us to catch it at all and say what it is; but nevertheless it is a datum which cannot be explained away, but which can be used to explain all further development of conscious life. "As a fact and given we have in feeling diversity and unity in one whole, a whole implicit and not yet broken up into terms and relations. This immediate union of the one and many is an 'ultimate fact' from which we start" (p. 569). It is that out of which everything beyond its own given and immediate self arises, on which, as a background, everything else plays its part, and into which everything else returns. This doctrine is to be

¹ References are to the second edition of *Appearance and Reality*.

found, explicitly or implicitly, throughout *Appearance and Reality*. For example, in the chapter on "Solipsism" (p. 252), Mr. Bradley writes as follows: "Now in answer, I admit that, to find reality, we must betake ourselves to feeling. It is the real, which there appears, which is the subject of all predicates. And to make our way to another fact, quite outside of and away from the 'this' which is 'mine' seems out of the question." Again, p. 254, "We have seen, so far, that experience, if you take that as direct, does not testify to the sole reality of my self. Direct experience would be confined to a 'this,' which is not even pre-eminently a 'mine,' and still less is the same as what we mean by a 'self'." Again, in the last chapter on "Ultimate Doubts," p. 526, "In a former chapter we noticed the truths contained in Solipsism. Everything, my self included, is essential to, and is inseparable from, the Absolute. And, again, it is only in feeling that I can directly encounter reality." Further, p. 459, "From mere pleasure and pain we may pass on to feeling, and I take feeling in the sense of the immediate unity of a finite psychical centre. It means for me, first, the general condition before distinctions and relations have been developed, and where as yet neither any subject nor object exists. And it means, in the second place, anything which is present at any stage of mental life, in so far as that is only present and simply is. In this latter sense we may say that everything actual, no matter what, must be felt; but we do not call it feeling except so far as we take it as failing to be more." (See also pp. 105-106, 159-160, 224.)

Feeling, then, is the original mode of consciousness. Or rather, it is not consciousness if by consciousness you mean some subject's awareness of something. It is simply there, so much stuff, not a blank whole, but yet not parted by the antithesis of subject and object. It is true that Mr. Bradley calls it "the experience of a whole" and again "immediate presentation," but we must dismiss the ordinary subject-object implications of these terms. Feeling is not an experient's act of experiencing something, or the presentation of something to some subject. It is a whole of being simply, not a whole of knowing, although when self and not-self have supervened upon it, it persists as that which holds together these two opposites. It is something on which perception, thought, and judgment, with their distinction of self and not-self, appear later in time.

Now granting that feeling, as Mr. Bradley describes it, is really to be found in my mental history, why should we believe that in it alone we encounter reality, rather than

the objects of reflective thought and perception, or in the objects of imagination or of my dreams? Granted that definite objects (and the self which is opposed to such objects) are not original but developed out of a basis in which there is neither object nor subject, and granted that such objects occur on the "background of feeling" which still survives its disruption into self and not-self, is that any reason why we should go to this original and persisting basis to find reality, rather than to such definite objects? Why should we assume that only feeling is actual, and the not-self, as we shall see later, merely ideal?

There are, it seems, two main reasons why Mr. Bradley thinks that in feeling alone we directly encounter reality. (i) In the first place, it seems, he falls back on the traditional view that if we are to get anything indisputable we must go back to what is given, and the traditional tendency to interpret the given as what occurs first in time. Feeling is for Mr. Bradley *par excellence* given, in that it is prior even to myself, for it is the basis from which I myself and my objects are developed, on which we play our parts, and into which I myself and my objects return. Feeling alone is actual and therefore indisputable, while that which is constructed from the basis of feeling cannot, as such, be actual. But the obvious question is: Why should you think the given, as such, actual and indisputable? Because a thing is, if you like, thrust upon me, or prior even to myself, why should I accept it as unshakable? And, on the other hand, why is what is constructed from the basis of the given as such not actual but ideal? For aught I know what is given or original may be uncertain and disputable, just as what is constructed from the basis of the given may be indisputable. Each must be considered on its own merits quite apart from the question whether it is given or original, or not.

Moreover, we may challenge the whole doctrine of feeling as the original mode of consciousness. According to Mr. Bradley's psychology, to begin with there is merely feeling, a whole which is diverse, yet not relational, out of which all that we can discover later in our mental history is developed; and therefore whatever we may challenge, we cannot challenge feeling. All the objects of our later mental life, the whole scheme of things which we are aware of as we develop, and my self set over against these not-selves as subject, are literally constructions from and out of the "whole of feeling" with which we start, because every object must appear first as feeling before the primitive whole is broken up.

"For all our knowledge, in the first place, arises from

the 'this'. It is the one source of our experience, and every element of the world must submit to pass through it" (pp. 224-225). Whatever is not actual and existent, feeling must be existent and actual, for if we cannot find actuality and existence in feeling, then where are these to be found? This doctrine seems to have all the vices of the *tabula rasa* notion of the mind. The *tabula rasa* doctrine and Mr. Bradley's doctrine of feeling each alike makes mental advance literally a process of construction from the given. And each alike tends to cast doubt on the mind's construction. As for the Kantian doctrine of knowledge the natural world is phenomenal, a tissue which hangs between the real subject and real things-in-themselves, so for Mr. Bradley all definite "things" are mere content which have somehow broken loose from the "whole of feeling," which is actual, as having both content and existence. Each alike tries to derive knowing from being simply, and, moreover, from subjective being. According to the Kantian doctrine, the phenomenal world is constructed out of data which are subjective determinations, and certain formal principles which are equally subjective, in that they too are projected out of the subject. According to Mr. Bradley, an object, as for example a chair, is something which has arisen out of the original "whole of feeling," which is neutral in that it is neither self nor not-self, and in that it survives when self and not-self have emerged, but which he describes as subjective or mental, in that it is "the filling of a finite psychical centre," and, in some way, the individual. Now, I maintain, nothing is given if by given you mean impressed on the mind as the matter of its knowledge from without, or simply *there*, a whole which proceeds to break up into content divorced from existence, thus constituting the fact of knowledge. The whole notion of the construction of objects out of the given is simply a metaphor which we are all of us liable at times to take seriously. Feeling is not a whole which is simply *there* or given, and which proceeds later to differentiate itself into self and not-self on a "background of feeling," in which the original "whole of feeling" persists. Feeling, like any other mode of theoretical consciousness, means the reaching out of some subject to cognise some object, although the object may be very vague: it means a feeler's feeling something. Feeling is the basis and pre-supposition of all mental advance simply in the sense that it occurs first in time, and is to be found accompanying all other mental activity, not in the sense that it is so much given matter, to which in my constructions I am limited, nor in the sense that it is that

out of which all my objects, and myself as opposed to these objects, have emerged. Mental advance does not mean construction, a process of building up into schemes of combination that which has broken out of the given in feeling. It means my going on to become aware of as definite and complex objects in relation to other objects what I was first aware of in feeling only as a vague whole, and therefore to become aware of a world of objects apart from, though related to, myself, wider and more complex than anything which can be given in feeling. These reflections show how idle it is to assert off-hand that in one particular mode of consciousness we have reality or actuality or what is indisputable, and how idle it is to suppose that you can have any satisfactory theory of knowledge apart from a metaphysical criterion of reality. There is no short cut to truth and reality. Mr. Bradley himself often makes this point. "We may put it thus once for all—there is nothing given which is sacred. Metaphysics can respect no element of experience except on compulsion. It can reverence nothing but what by criticism and denial the more unmistakeably asserts itself" (p. 207).¹

(ii) In the second place, Mr. Bradley looks at the whole question of knowledge not from the point of view of the subject of knowledge, but from that of the observing psychologist who tries to find out what is going on in another person's mind. The psychologist seems naturally to tend to regard another person's mind as not, like his own mind, an apprehensive, emotional, feeling and volitional thing related to objects in the theoretical, emotional and practical relations, a thing directed outwards upon other things, but as a thing (like a material object in space) which can be explained by temporal, spatial and causal relations alone. He tends to leave out the fact that another person's mind does not merely interact with its environment, but is also apprehensive of its environment, and therefore he tends to forget that what is given to the subject he is observing is not mental data, but objects other than that subject. Moreover, because mental process is a series of momentary changes, therefore the psychologist is tempted to conclude that the

¹ Mr. Bradley does, indeed, teach that feeling contains the aspects of diversity and unity together harmoniously in one whole: feeling is an "immediate union of the one and many". But, unfortunately, every "whole of feeling" changes in time, so that we get a present felt whole and a remembered past, and in this way feeling involves all the difficulties of the reconciliation of oneness and manyness. You cannot catch feeling except as passing into something else. Nevertheless Mr. Bradley persists that feeling alone is existent and that feeling alone gives us reality.

person he is observing is confined to momentary and purely subjective events. And in these purely subjective events we have the bed-rock of fact. Everything else may be uncertain, but these mental facts of the moment are actual and indisputable : they are immediate and direct, but everything else is mediate in that it is built up or constructed from these facts, and is therefore precarious and not given.

This notion that fact, the given, the immediate, is confined to momentary psychical events, interpreted as purely subjective states, is both mischievous and groundless. The objection to treating mental events in the case of another person as being purely subjective and momentary is that this way of looking at the matter denies to the person you are observing just what you claim yourself in order to conduct your examination, namely, that your mental events are not purely subjective, but are directed outward upon what is not yourself, so that your given is not something momentary and fleeting and subjective. The only psychical facts that are purely subjective are pleasure and pain. All other psychical events are not only states of some subject, but are also directed towards objects either in the theoretical, emotional or practical relation. What is immediately or directly given to the subject, in any mental event other than deliberate self-consciousness, is not something purely subjective, some state or affection of the subject, but something not the subject. And whenever the self can be observed at all, it is always observed to be related theoretically, practically or emotionally to some not-self. What we never come upon is a self wrapped up in its own subjectivity. Moreover, what is given is not necessarily something momentary and fleeting. Suppose I think of the Great Wall of China as having been built gradually throughout a certain period by certain people and as having lasted many centuries. Then that object as having lasted centuries is as much given to me, and as much given to anyone who reflects upon the whole concrete situation of my-apprehending-the-Great-Wall-of-China, as much immediate fact, as a flash of lightning or the vague presence of my body when I am on the point of falling asleep. Of course, the Great Wall of China is an object that I became aware of comparatively late in my mental history. I was vaguely aware of my internal organs, I suppose, some time before I became aware of the Great Wall of China. And if Mr. Bradley's "whole of feeling" does really occur, then, no doubt, that "whole of feeling" occurred in my mental history before the Great Wall of China supervened upon it. But I cannot see why I should say *prima facie* that

in the "whole of feeling" I touch reality and actuality rather than in the Great Wall of China, or in any other object. It is purely arbitrary to say, without more ado, that momentary psychical event is fact, and the Great Wall of China as having lasted centuries is not fact but ideal.

It is begging the question, then, to regard some mode of consciousness as giving us actuality, apart from some metaphysical criterion whereby we may distinguish between reality and what is not real. The question of truth and falsity cannot be solved in this way. Everything I am aware of is given in the sense that what I am aware of is not produced by my being aware of it. And every object of my consciousness is indisputable in the sense that it cannot be other than what it is, and that reality must hold good for just that object—reality has just that object to offer for my apprehension. (These points will occupy us later.) In the only sense in which we have any business to talk about objects being indisputable in our philosophical discussions the indisputable is the real, that which cannot be shown to involve contradiction. The question what is real cannot, however, be settled off-hand by any psychological appeal to what is original, or by pointing to any particular mode of consciousness. This question can be decided only by a process of criticising objects offered to us to see whether they are self-consistent.

At this point we may ask what evidence there is for Mr. Bradley's "whole of feeling" on which the self and not-self supervene, and which persists as a background for self and not-self when they have emerged (pp. 90-93, 95-96, 109-111). The definite self and the definite object of the self, he tells us, are not original. To begin with there is neither self nor not-self, but merely a "whole of feeling," although in some way he decides that this "whole of feeling" is psychical, and identifies it with the individual. From this basis, which contains diversity, but is not differentiated, arise later in time a self and a not-self, which are both relational and differentiated, but all the time that a self and not-self occupy the foreground, so to speak, there still persists an internal "background of feeling" from which self and not-self have arisen, and which is a survival of the original "whole of feeling". The self may be set over against itself as an object, that is, become a not-self, and the process of distinguishing aspects of the self may go as far as you please, but still there will be a residue felt as not being all out there as a not-self. Moreover, a definite object may cease to be a not-self, that is, cease to be out there definitely before the

self, and slip back again into the internal "background of feeling," and so in some way become the self.

In the first place, granting that the self and not-self are not original, but developed from a basis in which there is neither self nor not-self, what right has Mr. Bradley to call this basis a "whole of feeling"? At the present moment the paper I am writing on is a not-self set over against my self. Suppose I go off into a brown study or fall asleep looking at this paper, then, I suppose, both this paper and the self would slip into the whole of feeling. But why is it a "whole of feeling"? At the present moment I can feel my internal organs and the hair of my scalp. If I attend to this whole situation I can discern myself feeling my internal organs and the internal organs felt. Each is but an abstract portion of the whole concrete situation. When Mr. Bradley calls the basis from which self and not-self are developed a "whole of feeling," does he mean feeling in the sense in which I talk about my feeling my internal organs? Clearly he does not, because feeling in this sense means a feeler's feeling something, and in the original "whole of feeling" self and not-self have not yet supervened. But if it cannot mean feeling in this sense, what does it mean? The truth seems to be that Mr. Bradley wants to describe the primitive basis from which self and not-self have arisen in terms which imply that it is subjective or psychical, and which imply a duality of subject and object,¹ if these terms mean anything, and yet he wants to make the primitive basis more fundamental and original than the self and not-self, so that by means of this basis he may explain self and not-self and resolve their duality. Again, what right has Mr. Bradley to call the background, against which self and not-self group themselves, when the primitive whole has broken up, a "background of feeling"? This term again implies a duality of subject and object, if it means anything at all. On the other hand, Mr. Bradley sometimes calls the background a "felt mass," a "felt core," and he talks about "a felt surplus in our undistinguished core". This surely implies that the background against which self and not-self group themselves is no background at all but an object for a subject.

This leads to another point, that Mr. Bradley seems to identify the original "whole of feeling" before the self and not-self have supervened, and the "background of feeling"

¹On p. 106 Mr. Bradley describes feeling as "an apprehension too defective to lay hold on reality". What can this mean if it does not imply some subject's act of apprehending some object, however vague that object may be?

against which self and not-self group themselves with the self or individual. It is difficult to see how this can be. If I turn my attention upon any whole concrete situation that I can discover, I can discern myself, and I can discern something which is not myself, to which the self is related to make up this whole concrete situation. That is to say, my self is only an abstract portion of any discoverable whole concrete situation. Even in self-consciousness besides the self which occupies the foreground, so to speak, there are other objects which are not myself, however vaguely I may be aware of them. Even to talk about the self is to abstract, that is, to seize upon one portion only of a given whole concrete situation apart from the other portion, the not-self. What Mr. Bradley does is to take such an abstraction, and to drag in the other part of the whole as in some way not merely indivisibly united to it, but as actually given as it. The real reason why Mr. Bradley identifies the "whole of feeling" with the self seems to be this. He has made up his mind, as we shall see later, that in my perception of an object and in reflective thought about objects the only existence is subjective or psychical. So in the original basis from which perception and reflective thought are developed he is led to find something psychical, although no subject has yet emerged. At times, too, Mr. Bradley writes as though, when a not-self emerges from the primitive "whole of feeling," there were no self in the sense of something opposing the not-self at all, but simply a "mass of feeling much fuller than the object," simply a background on which the not-self appears (pp. 95 and 111). Here again he tries to reduce knowing to being simply, that is, he does not recognise the special relation between subject and object which all knowledge involves. When I recognise an object all that happens is that that object emerges from the original "whole of feeling" and occupies the foreground of this original whole, which still persists as a background, although you must not think that the terms 'background' and 'foreground' imply any spectator who distinguishes between the not-self and the "whole of feeling" with regard to the relative positions which they occupy.

Granted that my self and my objects are developed from a basis in which is neither self nor not-self, how can Mr. Bradley know that this basis occurs at all? He cannot observe this original basis at the time that it occurs, because at that time, *ex hypothesi*, no self in the sense of a subject of an object has yet arisen. When there is the original "whole of feeling" unbroken, there is no Mr. Bradley, as we know

him expounding, among other things, his own peculiar doctrine of feeling to us, that is, telling us of certain objects which he has succeeded in detecting, a subject of objects; and when Mr. Bradley, as such a subject, emerges out of the original "whole of feeling," this "whole of feeling" is broken up. How can Mr. Bradley observe what is *ex hypothesi* prior to himself *quâ* observing psychologist? Further, we cannot argue back to the original "whole of feeling". If I consider my own experience it is clear that I cannot find any ground for the doctrine. Whatever I am aware of, there is always myself as subject, and, moreover, myself as related practically and emotionally to my objects. In the case of another person (or of myself regarded as another person), granted, what seems impossible, that I can come upon a man who is, so far as I can gather, not related theoretically, practically or emotionally to any object, even then there is no ground for arguing back to a primitive whole from which the man as I usually meet him, an apprehensive, feeling, practical and emotional thing directed outwards in these ways upon objects, has emerged. Because even in this case I am aware of the man as apart from, though related to, an environment. What reason have we, then, to suppose that the primitive "whole of feeling," from which self and not-self emerge, occurs at all in my mental history? Mr. Bradley's attempt to get behind himself in this way and to resolve the duality of subject and object seems to break down. To use Mr. Bradley's own expression, if the "whole of feeling" does really occur in my mental history, I cannot know it; and in so far as I do know it, I know that it does not occur.

Mr. Bradley's position really collapses (i) when he tries to show why it is that we believe that certain elements in the "whole of feeling" never become objects, that is, a not-self, and (ii) when he tries to answer the question how it is that, when my self becomes an object, that is, a not-self, I yet recognise it as being myself. (i) With regard to the first question (p. 93), we feel a surplus in the "internal core of feeling" which we never find out there before us as a not-self. But in order to be able to say that this is the case, surely I must have the surplus in the "internal felt core" as an object, that is, a not-self, before me, just as much as the paper I am writing on. "Our feeling," says Mr. Bradley, "contains a margin which, in its general idea of margin, can be made an object, but which, in its particularity, cannot be. But from time to time this margin has been encroached upon." This seems a lot of knowledge about that which

cannot be a not-self. It can only mean that the "background of feeling," which is not exhausted by the definite not-self, is no background at all, not something which contains the self and not-self and their distinction, but itself parted by the opposition of subject and object. Take Mr. Bradley's example of a constant sound. There is a stage, he says, where we cannot say that the sound has ceased, and yet it is no feature of what comes as the not-self. Surely Mr. Bradley offers us this as an account of what he can observe about feeling when it occurs. And it must mean that the "background of feeling" is a not-self. It may be a vague and fluctuating object, but a vague and fluctuating object is just as much an object as the most definite thing out there before me. And, moreover, it must be a not-self for some self or subject, which decides that certain elements in the felt background are never definitely out there before it. That is to say, the internal "background of feeling" is not something neutral against which the opposing self and not-self group themselves, but an object. Mr. Bradley's *tertium quid* over and above, and containing subject and object, is a fiction.

(ii) With regard to the question of self-consciousness (pp. 110-111), Mr. Bradley writes as follows: "How, I may be asked, if self-consciousness is no more than you say, do we take one object as self and another as not-self? Why is the observed object perceived at all in the character of self? This is a question, I think, not difficult to answer, so far at least as is required for our purpose here. The all-important point is this, that the unity of feeling never disappears. The mass, at first undifferentiated, groups itself into objects in relation to me; and then again further the 'me' becomes explicit, and itself is an object in relation to the background of feeling. But, none the less, the object not-self is still a part of the individual soul, and the object self likewise keeps its place in this felt unity. The distinctions have supervened upon, but they have not divided, the original whole; and, if they had done so, the result would have been mere destruction. Hence, in self-consciousness, those contents perceived as the self belong still to the whole individual mass. They, in the first place, are features in the felt totality; then again they are elements in that inner group from which the not-self is distinguished; and finally they become an object opposed to the internal background. And these contents exist thus in several forms all at once. And so, just as the not-self is felt as still psychically my state, the self, when made an object, is still felt as individually one with me." First, how can

Mr. Bradley know that "the unity of feeling never disappears"? How can he know that the original basis groups itself into objects in relation to the self, when *ex hypothesi* this original basis is not differentiated into subject and object? We may present him with a dilemma. Either the original "whole of feeling" is from the first a concrete whole in which a subject is in relation to an object, although, of course, both subject and object may be very vague and shifting. Or we have no evidence for the continuity of mental life which Mr. Bradley asserts. But, more important than this, Mr. Bradley has not given a satisfactory answer to the question how, in self-consciousness, we take our object as self and not as not-self. He has only said that the object of self-consciousness has arisen from the original "whole of feeling". But all three, the not-self, the self as object, and the subject-self which apprehends the not-self and itself as objects, have arisen, each alike, from the original "whole of feeling," in which original whole, further, there is no feeler feeling anything. How then can we make the distinction at all? How can self-consciousness in Mr. Bradley's doctrine have any meaning? The great difficulty of Mr. Bradley's doctrine of the original "whole of feeling" is that it makes it impossible for me to know myself at all and to distinguish myself from another person or from a material thing. Commonly we distinguish between a self or spirit and sensible objects, between psychical and material existence. And I do commonly distinguish between myself and other persons. Mr. Bradley himself accepts these distinctions in stating his own doctrine, and in arguing against doctrines which he regards as unsound. But according to his doctrine of the original "whole of feeling," on which self and not-self supervene later in time, it seems impossible that these distinctions ever could arise at all. At this moment, the paper I am writing on is a not-self to me. And myself as reflecting upon this present topic of self-consciousness is a not-self to me. But how comes it that I can identify myself with the latter not-self and not with the former, if all alike, my present subject-self, self as object and this paper, have arisen from one undifferentiated "whole of feeling"? And how comes it that I can refuse to identify myself with another person, if that other person, as not-self to me, and I myself as subject have arisen alike from the original "whole of feeling"? Mr. Bradley, of course, believes in different "psychical centres," but it seems impossible for him, starting from what he allows in his doctrine of the "whole of feeling," to avoid solipsism. It may be the case that "the process, which conducts you

to other selves, is not weaker sensibly, if at all, than the construction by which your own self is gained" (p. 257). But both my own and other selves, as I know them, are ideal constructions developed out of a "whole of feeling" which Mr. Bradley seems to identify with myself. This is implied in his doctrine that the "whole of feeling" is psychical, and in his assertion that a not-self may slip back again into the "background of feeling," and so become the self. Mr. Bradley himself may believe in different "psychical centres," but if his doctrine is true, how can I become aware of different "psychical centres" at all? Here again Mr. Bradley's doctrine seems to involve the impossibility of its own assertion, and to demand more for its assertion than it allows by its assertion.

Let us pass on to examine Mr. Bradley's interpretation of the fact of perception. In the chapter on "The Meanings of Self" (p. 77), we get the following passage: "Take a section through the man at any given moment. You will then find a mass of feelings, and thoughts, and sensations, which come to him as the world of things and other persons, and again as himself; and this contains, of course, his views and his wishes about everything. Everything, self and not-self, and what is not distinguished as either, in short the total filling of the man's soul at this or that moment—we may understand this when we ask what is the individual at a given time." Here Mr. Bradley looks at the matter from the point of view of the psychologist who inquires what is going on in another person's mind. But we must remember that it is not the business of the observing psychologist, as such, to consider the whole concrete situation. He abstracts in that he turns his attention upon one portion only of the whole concrete situation, namely, the mind of the person he is observing. And, moreover, he seems to be strongly tempted to bring in the remaining part of the whole concrete situation as in some way dependent upon the mind of the person observed. So it is with Mr. Bradley. Take a man's mind at any given moment, he says, and you have got that man's environment, all that upon which his mind is directed, at the same time. However, in the chapter entitled "The General Nature of Reality (continued)," Mr. Bradley protests against any such attempt to abstract one element from a concrete whole, and treat it as real in abstraction (pp. 144-147). "For if, seeking for reality, we go to experience, what we certainly do *not* find is a subject or an object, or indeed any other thing whatever, standing separate and on its own bottom. What we discover rather is a whole in which distinctions can be made,

but in which divisions do not exist. And this is the point on which I insist, and it is the very ground on which I stand, when I urge that reality is sentient experience. I mean that to be real is to be indissolubly one thing with sentience. It is to be something which comes as a feature and aspect within one whole of feeling, something which, except as an integral element of such sentience, has no meaning at all. And what I repudiate is the separation of feeling from the felt, or of the desired from desire, or of what is thought from thinking, or the division—I might add—of anything from anything else."

If Mr. Bradley means that the concrete nature of reality is to be found in situations such as my whole apprehensive, emotional, feeling and volitional self together with certain wholes of objects to which it is related theoretically, emotionally and practically, then we can heartily agree with him. But why call such whole concrete situations "sentient experience," "psychical existence"? Why say that "feeling, thought, and volition (any groups under which we class psychical phenomena) are all the material of existence"? In the whole concrete situation of myself as I was a moment ago together with the view to which I was attending I can make distinctions, that is, I can attend to certain portions of the whole concrete situation without considering other portions. And in that whole situation one distinction I make is that between my apprehensive, emotional, feeling and volitional self, on the one hand, and my objects on the other. Myself, on the one side, and the trees and houses I was looking at, on the other, are apart from, though related to, each other, as my right boot is apart from, though related to, my left. I am not the trees and houses any more than one of my boots is the other. And I do not include or contain the trees and houses, any more than my right boot includes the left. Now in the ordinary propriety of speech we should not designate the trees and houses that I was looking at a moment ago by the term "psychical existence". This term would be restricted to such things as my feelings, emotions, volitions, thoughts, that is, to certain parts only in the whole situation of my concrete self together with the objects to which I was in theoretical, emotional and practical relation. Neither would this term be used to designate such whole situations. The whole concrete situation of my-self-together-with-the-scene-to-which-I-was-attending is not psychical existence any more than it is material existence, for these terms designate certain abstract portions which can be discerned in any given situation. Moreover, such a

whole concrete situation ought not to be called "sentient experience," which means some subject's acts of sensating something, again merely an abstract portion of any discoverable situation. Further, is it correct to talk about any given whole concrete situation as "being experienced"? In the whole situation of myself together with the scene at which I was looking I can discern, more or less, the things I was apprehending, and I can detect, more or less, myself as apprehending them. These are abstract portions in "a whole in which distinctions can be made, but in which divisions do not exist". Now I can talk about the trees and houses I saw a moment ago being experienced, namely, by myself, but how is the whole concrete situation of myself and the trees and houses I was looking at, at the moment when this concrete situation occurred, to be described as "a whole which is experienced"? Of course, it may have been that at the moment when I was looking at the scene before me some subject was attending to me and my objects. If this was really the case, then myself and my objects formed "a whole which was experienced," but in order to be able to say this you must appeal to something which was not experienced, namely, the subject who was attending to me and my objects. What is experienced can only be an abstract portion of any discoverable whole situation, because what is experienced demands an experient to experience it, and therefore any whole concrete situation cannot be "a whole which is experienced".

It is perfectly true to say that any piece of existence that I can find is indissolubly united with perception and feeling, so that we cannot "continue to speak of it when all perception and feeling have been removed, or point out any fragment of its matter which is not relative to this source," if by perception and feeling you mean some subject's act of perceiving and feeling some object. But it is false if you mean that everything I can discover is either a "whole of feeling" itself (a kind of neutral background which is yet psychical, and which proceeds later to differentiate itself into definite self and not-self, while still persisting to contain these differentiations), or such differentiations of the primitive "whole of feeling," which are rooted for their existence in this "whole of feeling". Moreover, it is equally true that you cannot catch yourself as perceiving and feeling except as indivisibly united to some material existence. You cannot argue from the fact that material things are never discovered except as indivisibly related to some psychical existence to the assertion that material things *are* psychical existences. Any concrete

situation that you can discover contains both a psychical and a material existent. Even granted (what seems to be untrue) that I can sometimes come on myself not related practically, emotionally or theoretically to material things, as in moments of great excitement, yet when I am thus related to material things, the latter are not psychical existences, however closely they may be related to psychical existences.

Closely connected with Mr. Bradley's doctrine of feeling and perception is his view of thought and judgment. The subject is treated in the chapters on "Thought and Reality," "Error," and "Degrees of Truth and Reality". In judgment "we find thought in its completed form. In judgment an idea is predicated of a reality. Now, in the first place, what is predicated is not a mental image. It is not a fact inside my head which the judgment wishes to attach to another fact outside. The predicate is a mere 'what,' a mere feature of content, which is used to qualify further the 'that' of the subject. And this predicate is divorced from its psychical existence in my head, and is used without any regard to its being there. When I say 'this horse is a mammal,' it is surely absurd to suppose that I am harnessing my mental state to the beast between the shafts. Judgment adds an adjective to reality, and this adjective is an idea, because it is a quality made loose from its own existence, and is working free from its implication with that. And, even when a fact is merely analysed,—when the predicate appears not to go beyond its own subject, or to have been imported divorced from another fact outside—our account still holds good. For here obviously our synthesis is a reunion of the distinguished, and it implies a separation, which, though it is over-ridden, is never unmade. The predicate is a content which has been made loose from its own immediate existence and is used in divorce from that first unity. And, again, as predicated, it is applied without regard to its own being as abstracted and in my head" (see the whole passage, pp. 162-165).

Mr. Bradley's view of the nature of thought and judgment is parallel to his treatment of feeling. He looks for the contents predicated in judgment in something mental, something in the predicator's mind. It is true that he expressly rejects the view that what I predicate is some fact "in my head". At the same time, he asserts that what is predicated is something which has its existence "in my head". This doctrine seems as false as the doctrine he rejects. When I say "This paper is white," am I joining to the paper a content divorced from its existence "in my head" or "in my

mind"? Clearly not. Here we have again an abstraction offered us as the whole situation. I affirm that this paper is white. What Mr. Bradley does is to turn his attention exclusively upon one abstract portion of the whole situation involved in my affirming whiteness of this paper, namely, my mind. And he offers us this abstraction as the whole, in that he tries to drag in the rest of the whole situation as in some way, not merely indivisibly joined with the first portion, but as actually given in, and as, that portion. He asserts that the predicates predicated are not mental events or states of my soul. Rather they exist, he tells us (p. 301), in "so far as the psychical states do *not* exist". But they are apart from mental events only *quâ* content. If we are to find existence for them we must go to mental events, for they have broken out of the original "whole of feeling," and they are rooted for their existence in the "whole of feeling," which survives its disruption into self and not-self. Now in the whole concrete situation of my affirming that this paper is white I can discern myself as in a certain state, namely, the state of predicating whiteness of this paper. Myself as in this state is an existent thing of a certain character. I can also discern the paper about which I make the affirmation, again an existent thing with a content, part of which content I detect and affirm as belonging to the paper. But the content of my mental state is not the paper nor the whiteness which I predicate of the paper, any more than the whiteness which I detect and assert as belonging to the paper is my act of affirming whiteness of the paper, or any part of the content of this mental fact; although part of the content of this mental fact is that this fact is one whereby I assert whiteness to belong to the paper. Describe the character of the mental fact involved in my predicating whiteness of this paper as fully as you please, and you cannot find whiteness as part of that character.

Mr. Bradley's 'idea' is a fiction. Attributes of the thing about which I make assertions we all know, and mental events and their characters we know. But what is a content of the mental fact of judging, which is divorced from its existence as that mental fact, and which is yet the character which, in judging, I assert to belong to the subject of the judgment? Whatever judgment is, it is not thrusting on reality the character of my mental events. Moreover, judgment is not thrusting on reality anything at all. Judgment does not add adjectives to reality, but discerns adjectives as belonging to objects. When I judge that this paper is white, I do not spin out of myself, or loosen from my state, the

whiteness. Whiteness is a character which I detect as belonging to certain objects which are not myself, as, for example, paper and snow. It is not mental. Judgment does not mean adding to reality content divorced from existence, because the notion of content divorced from existence is a fiction. Qualities do not fly about loose to be attached to existence by mental process, or by any process whatever. Particular qualities may be specially regarded. I can attend to the whiteness of this paper, for example, without attending specially to its other qualities. But this paper is "a whole in which distinctions can be made, but in which divisions do not exist". One is apt to be led astray here by crude material metaphors taken seriously. The difficulty of describing mental facts is that all or most of the terms we use are metaphorical, and apply primarily to material things. We tend naturally to think in spatial terms even about things which are not spatial, and it is only the confusion thus introduced into our thought which leads us to recognise the fact that our treatment is not literally accurate. For example, take what is sometimes called "metaphysical analysis". People talk about analysing a thing into its qualities, as though I could literally take qualities apart from one another—as though I could literally extract a quality from the concrete existent thing of which it is a quality, and hold it in isolation from that existent thing, as I can take a brick out of a wall. They do not see that analysis means discerning, that is, specially attending to, one quality after another as being all the time a quality of an existent concrete thing. Again, people talk about the categories of thought as being various instruments whereby in thought we break up, and reconstruct as an abstract and definitely systematic whole, that which is presented in sensation as a vague continuum. All this is pure metaphor. I do not break up what is presented as a continuum in sensation. Nor do I in thought construct a definite scheme of things out of the products of my breaking up the sense continuum. In thought I discern how that world which I am aware of as a vague whole in sensation is differentiated and unified. Also, people talk about judgment as a process of qualifying or determining objects,—as though, when I assert a quality of a thing, I do literally stick a fresh quality into that thing, or make the thing by adding characteristics to a blank, formless whole. In the same way, Mr. Bradley seems to believe that when I predicate whiteness of this paper, a content which is literally loosened or divorced from some mental existence proceeds to attach itself to reality.

Mr. Bradley seems also to have been led astray about the image. He protests against the error of Berkeley and Hume of identifying the image with the object of thought. But, nevertheless, he does regard the image as constituting the object of thought by means of its character. "Wherever the predicate is seen to be supplied from an image," he says, "the existence of that image can be seen at once *not* to be the predicate. It is something clearly left outside of the judgment and quite disregarded" (p. 187). But part of the content of the image *is* the predicate predicated of the object. This view is surely mistaken. For example, I may predicate whiteness of snow, and I may help myself out by means of an imagined white thing, just as I may make use of the perceived whiteness of this paper for the same purpose. But the whiteness I predicate of snow is not torn out of the imagined white thing, any more than it is torn out of the perceived thing, namely, this paper, when I make use of this paper to enable myself to make a judgment about snow. When I predicate whiteness of snow and do so by means of the perceived whiteness of this paper, this paper does not in the act of predication lose its white colour. And in the same way, when I predicate, without making use of a perceived thing, my mental events do not *ipso facto* lose part of their content. Mr. Bradley describes judgment as a mere process of re-arrangement, or re-distribution of content, between self and not-self and the "background of feeling" from which self and not-self have emerged. The whole doctrine of the divorce of content from existence seems to be metaphysically impossible. How is it possible to extract a content from an image or percept, or indeed to extract a quality from anything whatever? And how can a not-self receive a quality made loose from a fact "inside my head"? The image is merely the medium or vehicle of thought. It is neither the thing thought of nor the act of thinking of the thing. It is analogous to the diagram I draw on paper in order to assist myself to discover the nature of geometrical objects, and it is just as little mental as the perceived diagram.

Mr. Bradley seems to confuse the image not only with the object of thought, but also with the subject's act of thinking and predicating of the object. Or rather, he seems simply to substitute the image for the subject, and to give an account of judgment without bringing in anything over and above fact of the moment. He writes as though the image were the only psychical thing that occurred at all when I predicate whiteness of an object. He tries to do away with the predicator altogether, and this is, of course, supported by his

doctrine that the self, like every other 'thing' short of the Absolute, is ideal. Apparently when I predicate whiteness of an object there occurs an image (which is a mental fact). Part of the content of this mental fact, namely, whiteness, divorces itself from its existence, and transfers itself to an existence which is not the existence to which it originally belonged. And this is all. There is no subject which discerns whiteness to belong to an object, and which announces this fact in judgment for the benefit of others. It is easy to see why Mr. Bradley should think this account of judgment to be adequate. By regarding the image as the mental factor involved in judgment, Mr. Bradley is led to suppose that there is no need to go any further. Once, however, we recognise that the image, when I do use an image, is not mental, but something not myself which I make use of to enable me to predicate, we must find the mental factor involved in judgment in the act of judging on the part of some subject.

The result of Mr. Bradley's doctrine of the nature of thought and judgment is that any definite 'thing' short of the Absolute is mere content divorced from existence, mere ideal construction. In the chapter on "Body and Soul" (pp. 300-304 and 306), we get this point quite clearly. Mr. Bradley seems to look at the matter thus. The basis of all thought and judgment is the original "whole of feeling," which is psychical, and which he identifies in some way with the individual. This original "whole of feeling" has diversity, and is also existent, because it is the basis from which everything that we find involved in higher stages of thought is developed, and if existence is not to be found in this basis, where shall we find it? On the original "whole of feeling" supervene later in time the self and not-self. Mr. Bradley concludes that the momentary mental event, the "immediate unity of quality and being which comes in the 'this,'" is an actual existent, but any not-self consists in mere content. For, in the first place, thought works by way of content. I distinguish one object from another by means of its character. That is to say, when a definite 'thing' has supervened upon the original "whole of feeling," content has broken out of that whole, in which existence and content are joined, although at a stage below that of reflective thought. In the second place, owing to the abstraction that we have noticed before, the seizing upon the mental factor in the whole concrete situation, and treating that as the whole, Mr. Bradley finds existence only in the mental event of the moment, and any object (short of the Absolute) can only be content di-

vorced from its existence as that mental event. Moreover, Mr. Bradley believes that in judgment content is literally supplied to the subject of judgment. But he draws the line at supposing that existence can be supplied too. So he comes to the conclusion that the object seized upon by thought, which works by way of content alone, must be ideal.

Now a thing thought of is not a product of thought. That is either a misleading metaphor or a confusion of thought. My act of thinking of an object may be called a product of thought, if you like, in that it may have cost me much patient exertion to attain to the apprehension of that object. But it is not literally true that I have produced such an object. The character I apprehend as belonging to this paper and the character I think of as belonging to myself are not spun, or projected, out of the thought of the moment which thinks of them. Neither is the existence of these contents to be found in the thought which thinks them. Every content is indivisibly united to existence, and the "that" of any "what" is not further from the thought which thinks of the "what" than the "what" is. Take the whole situation of my thinking of this paper as having a certain character. In that whole concrete situation I can discern myself, an existent thing with a content, and the paper, also an existent thing with a content indivisibly united to its existence. The paper is apart from, though related to, myself who apprehend it. I do not contain or include the paper any more than the paper contains or includes me. Nor is there any psychical *tertium quid* on which the paper and myself cognising the paper appear. I cannot think of the paper under any of its qualities except I am aware of these qualities as inhering in a "that," and further there is no need to go for this "that" to the thought of the moment.

Further, it seems difficult to see, on Mr. Bradley's doctrine, how he can be aware of existence at all,—how he can state his own case. Existence would be confined to the original "whole of feeling" and the mental event of the moment, the present state of my soul, as they occurred. The moment I reflected on the "whole of feeling" and on the mental event of the moment, in order to theorise about them as Mr. Bradley does for our benefit, and made them objects to myself, they would become ideal, that is, divorced from existence. Their presence on the background of a further "whole of feeling," a co-existing mass which is simply there and not "parted and joined by relations even of co-existence," would be actual fact, for it would help to form this

mass, but they themselves would be mere content divorced from existence as this mass. To find existence for them I should have to go to the momentary psychical mass on which they have appeared, but this again would be impossible, because that mass in its turn, *quâ* object of thought, would be mere content divorced from the existence of a further immediate "whole of feeling," and so on for ever. The doctrine seems to involve the impossibility of its own assertion.

Above all, the self which thinks and judges is not an ideal construction, but an existent thing. On what principle is it possible to maintain that the self is not actual and given? I am aware of objects which are momentary like a flash of lightning or a twinge of pain, and I am also aware of objects like my self, which I cognise as existing for long periods of time and as being exceedingly complex in nature. Now on what principle can you say that my first cognition is direct experience and its object given and actual, whereas my second cognition is not direct experience and its object not given and actual, unless beforehand you define the directly experienced, the actual, as what is momentary and not definitely complex? Every object that I am aware of, I am aware of as having two aspects, a "that" and a "what," an existence and a content. This antithesis seems to be quite fundamental. I cannot be aware of an object which is nothing in particular: every object, to be cognised at all, must be cognised as having a character. And on the other hand, the character by means of which I grasp an object must inhere in an existence which is inseparable from that character. Moreover, every object that I am aware of is not in any degree made what it is by my awareness of it. In order to be in a position to say that my awareness of an object constitutes in any degree that object, I must either be aware of that object without being aware of it (in order to compare it as it is apart from my awareness of it with what it is in the fact of my being aware of it), which is impossible; or I must argue to what it is, apart from my awareness of it, from its nature as I am aware of it, and discern in its nature as I am aware of it that it is different apart from my awareness of it. But an object as I am aware of it will give me no guidance as to its nature apart from my awareness of it. Since I only know my objects as they are in the fact of my knowing them, I can never be in a position to know that my knowing them in any degree constitutes them. Whatever I am aware of as the character and being of an object is *there*, apart from, but related to, myself who am aware of it. You cannot resolve knowing into making, or constituting, objects, or into any-

thing but itself; and if you could, it seems difficult to see what meaning you could give to that which was used as an explanation of knowledge.

But here at once we are faced by a fundamental objection. "What about error?" we are asked. "Have you not swallowed the problem of error whole? A doctrine like Mr. Bradley's is framed with the problem of error in view, whereas you talk as if you had never heard of the facts of contradiction and error at all." In answer to this, I must protest, first of all, against the assertion that the problem of error presents any special difficulty to a doctrine such as I have tried to elaborate. The problem of error equally besets all accounts of knowledge. It is a rock upon which all philosophies split. If I am in error, in some way or other there is involved the unreal. Now whether you say that this unreal is due to a process of falsification upon my part, or whether you say that the unreal, by which, in error, I am confronted, is in no degree constituted by me, in either case you are faced by the fundamental metaphysical difficulty how the unreal can ever present itself in any way whatever. To say that I have falsified in some way certain indisputable data, like every other psychological account of the origin of error, does not help in the least. Apart from the difficulty on what principle you are to find these data, and the difficulty how these data can be indisputable, since such data can, *ex hypothesi*, be worked up into a false product or construction, the fundamental difficulty is how there can be anything falsified, whether it be product or construction of thought or anything else, at all. As Mr. Bradley puts it, p. 186: "We cannot, on the one hand, accept anything between non-existence and reality, while, on the other hand, error obstinately refuses to be either. It persistently attempts to maintain a third position, which appears nowhere to exist, and yet somehow is occupied. In false appearance there is something attributed to the real which does not belong to it. But if the appearance is not real, then it is not false appearance, because it is nothing. On the other hand, if it is false, it must therefore be true reality, for it is something which is. And this dilemma at first sight seems insoluble. Or, to put it otherwise, an appearance, which is, must fall somewhere. But error, because it is false, cannot belong to the Absolute; and, again, it cannot appertain to the finite subject, because that, with all its contents, cannot fall outside the Absolute; at least, if it did, it would be nothing. And so error has no home, it has no place in existence; and yet, for all that, it exists." You cannot appeal, then, to the fundamental

metaphysical difficulty of error in support of any particular doctrine of the nature of thought.

Take, for example, the chimera, which we are all agreed in condemning as a mere "figment of the imagination". We condemn the chimera because we cannot fit the chimera into the scheme of our ordinary thinking. If you take the chimera seriously, in the same way as you take the horses you see in the street seriously, you will get into confusion in your ordinary practical life. But it is equally true that the scheme of things which I am not prepared to give up in my practical life will not square with the chimera. The chimera may be as fragmentary and isolated an object as you please, but then the scheme of things I accept as the result of my most strenuous efforts to understand the world is not completely self-contained and coherent. It has ragged edges, as Mr. Bradley puts it, and internally also it shows discrepancy. The chimera may not be so real as myself or the horses that I see in the streets, but it is not utterly unreal, in that it does hold together to some extent. And, moreover, it coheres with objects like itself, for like every other object that I am aware of, I cognise it as in a setting or background. You will not meet the chimera in the ordinary natural world of practical life, but neither are the horses I see in the streets to be found in the chimera's world. The chimera is *there* when I attend to it, just as I am *there* when I attend to myself. Reality has just the chimera to offer for my cognition, as reality is just good for the presentation of myself to me. It is a monstrous proceeding to equate the chimera to nothing at all. The chimera must in some way fit into the complete scheme of reality. However, it may be objected that such imaginary objects as the chimera are clearly constructed out of elements of previous experience. The chimera is a compound of lion and dragon and goat. Such objects as the chimera and the hydra and the unicorn and centaur were invented by putting together parts of the animals given immediately in experience. This account of the matter is purely metaphorical. Take an example which appeared in *Punch* some time ago. Suppose I imagine an interesting combination of a bull-dog and a frog. In order to do this, I do not literally take out of a frog and a bull-dog certain of their characteristics or parts, and literally stick them together. I have never so maltreated dumb animals. I simply go on from bull-dogs and frogs, as I know them in the ordinary natural world, to the apprehension of a creature like each in some respects. Such a creature is, of course, most incoherent and self-contradictory. The more I

try to think of his precise nature in detail, the more fragmentary I see him to be, and the more his own inherent absurdities show themselves. But even such a creature is not utterly unreal and utterly self-contradictory. He is not to be equated to nothing at all, and he does cohere to some extent. No doubt, in order to become aware of such a monster, I must first have had experience of bull-dogs and frogs. But in the same way, in order to appreciate the properties of triangles demonstrated in the later propositions of the first book of Euclid, I must first be aware of those properties asserted and demonstrated in the earlier propositions. And in order to become aware of the world as a comprehensive and systematic scheme I must first become aware of it as less comprehensive and less definitely systematic. This objection does not dispose of the fact that the 'compound' of the bull-dog and the frog is *there* to be cognised, just as much as the properties of the triangle revealed in the later and more difficult propositions of Euclid's first book are *there* to be cognised. Each stage in knowledge is the necessary condition of a further advance. All that is required is that you should perform the necessary act of cognition. It may be urged that certain objects are only apprehended in certain peculiar states and by certain peculiar individuals. One only sees blue snakes, for example, when one is suffering from delirium tremens. Only those of a suspicious turn of mind see injury and insult where none is intended. I may be so full of certain doctrines which I regard as unsound that I see these doctrines everywhere. Now apart from the difficulty how it is possible to define these peculiar states or peculiar individuals without appealing to the peculiar objects in question, this objection is perfectly true but entirely irrelevant. In order to apprehend any object whatever, I must be in a certain appropriate state. At the present moment I cannot apprehend the blue snakes of delirium tremens as the delirious patient does, any more than I can apprehend the concrete character of skew curves, because I am not drunk and I am not a mathematician. Such objects are detected only by certain peculiarly favoured individuals. To become aware of the blue snakes of delirium tremens or of the nature of skew curves, I should have to go through a long course of preparation and discipline. The facts of error and contradiction, then, do not provide any evidence for the doctrine that knowledge is a process of constructing objects. Error means that the individual in error believes in that which is unreal, which unreal is in no degree constituted by the individual *quâ* knowing subject.

And so we may answer Mr. Bradley's contention that self-consciousness involves a vicious circle (p. 306). There would indeed be a vicious circle if the soul were an ideal construction, something produced by the thought which thinks of it, for this thought itself demands the soul, whose state it is, in order to think of the soul. But the soul is not an ideal construction, not something which, *quâ* product of thought, necessitates the prior existence of the thought which thinks it. The soul has existed before the thought of the moment, and in self-consciousness the soul is not produced by the thought which thinks of it, but discovered to itself in a momentary act of cognition. Moreover, apart from this objection, we may question Mr. Bradley's vicious circle on another score. "Thought," says Mr. Bradley, "is a state of souls, and is therefore made by them. . . . This construction [of the soul] itself appears to depend on a psychical centre, and to exist merely as its 'state'." Now if the thought of the moment by which the soul is constructed is existent, and the soul is not existent but ideal, as being the product of the thought of the moment, how can the thought of the moment be a state of the soul? How can that which is merely ideal have as its state what is existent? We may offer Mr. Bradley a dilemma. If the soul is not existent, then its state, the thought of the moment, is not existent. And on the other hand, if the thought of the moment is existent, then the soul, whose state it is, must be existent. Mr. Bradley seems here to be playing fast and loose. He puts forward a characteristic doctrine of his own, and at the same time he wants to be allowed to take advantage of a common doctrine against which his own view is directed. He denies that the soul is existent, and yet he asserts what is only legitimate to one who believes that the soul is existent, namely, that the existent thought of the moment is a state of the soul.

The final working out of Mr. Bradley's doctrine of knowledge is to be found in his account of truth. The subject is treated in the chapters on "Thought and Reality" and "Degrees of Truth and Reality" (see especially pp. 165-169, 170-171, 178-179, 182, 360-361). For Mr. Bradley truth is the ideal of thought. It means completed thinking. Thought operates by means of content. But any content will be found to involve contradiction. Both internally when we consider the distinctions within it, and externally when we consider its relations to other objects, it leads to the infinite process. Truth is the effort to remedy this, as it were, homœopathically, that is, by taking in more and more of content and by making further and further distinctions within our system of

content. Even if this were accomplished, and we had a perfectly harmonious and all-comprehensive system of content, yet, after all, content must refer to something else which has the content. After all, thought is *about* something which it *is* not. And the fact of this something for ever prevents thought from attaining consummation. If we did get a perfectly harmonious system of content, we should still have left on our hands the "whole of feeling," from which content has broken out, and in which content and existence are somehow joined. Thought can only reach consummation if we have a system of content rejoined to existence, in some way above discursive thinking, as feeling is below it. "Reality, as it commonly appears, contains terms and relations, and indeed may be said to consist in these mainly. But the form of feeling (on the other side) is not above, but is below, the level of relations; and it therefore cannot possibly express or explain them" (p. 107). Thought cannot *make* reality, and therefore the ideal of truth is attained only when thought is, as such, transformed and *becomes* reality, when knowing becomes absorbed into being, as it originally sprang out of the disruption of being.

The basis of Mr. Bradley's doctrine of truth is the view that every object of reflective thought is ideal, a product or construction of the mental fact which thinks it, and in which it is rooted for its actuality, so that, therefore, thought works by content alone. This doctrine we have seen reason to doubt. An object of thought is as much existent as the mental fact which thinks it, and has a "that" in its own right apart from, though related to, this mental fact. Objects are not content projected out of, or divorced from, the mental event of the moment. They are existent things with a certain content apprehended by the thinker, who is also an existent thing with a content. It may be the case that every object of thought is inconsistent, and that therefore thought is compelled "to take the road of indefinite expansion". But this does not mean the emergence on the "background of feeling" of more and more of pure content. It means the subject's going on to become aware of a wider and wider existent thing with its content. And therefore there is no reason to believe that thought must, as such, be transformed in order to reach its consummation. Truth, the ideal of thought, would still be thought. It would be some subject's apprehension of (and belief in) the absolutely self-consistent. Granted, as Mr. Bradley does grant to begin with, that truth is an affair of thinking, then we see that thought is some one's thought of something. That is to say, thought is an abstract

portion of some concrete whole. If this is the case, then it is not legitimate to identify the ideal of thought with the concrete whole *par excellence*, namely, the Absolute. Reality is neither true nor false. It is, it exists, it is real; but it is not true. The Absolute has no Other, but thought, it is clear, is of an Other. Mr. Bradley is led to make the Absolute the consummation of thought because he will not admit the special nature of the cognitive relation. He describes thought as he would describe what is merely an object of thought, without bringing in the point that thought is some subject's thinking of some object. Such an account of thought seems to be untenable. It is impossible to avoid bringing in the subject if we are to give an account of mental advance. A given piece of content which has supervened upon the primitive "whole of feeling" does not recognise its own inconsistency. And it does not begin to become wider and wider of itself, and spontaneously make further and further distinctions within itself. It is the subject, who is not the content, who recognises the inconsistency and inadequacy of that of which he is aware, and in so doing strives to know his object in its self-consistent and complete nature. And therefore, even if thought were consummated, there would still be this subject.

It is interesting to consider the treatment of the question of truth which we get in Mr. H. H. Joachim's *The Nature of Truth*. Mr. Joachim is, I take it, fundamentally in agreement with Mr. Bradley. At the conclusion (§§ 42-44, 60), Mr. Joachim has to admit that it is impossible to bridge the gap between the ideal of truth and ordinary concrete thinking. And it is impossible for two reasons. First, all actual thinking is some one's thinking: every ideal content is separated from some mental existence. Second, all thinking is thinking of something: all predication is an attempt to qualify reality by means of some content. "We may speak of a judgement of science as an 'inseparable unity of thinking and the object thought': but we must interpret *object thought* as the content of the thinking, or as the *what* of which the actuality of the thinking is the *that*. The 'meaning,' in short, is still adjectival. It is a predicate, which, in the judgement or system of judgements, is 'affirmed of,' or 'referred to,' reality. It is, to use a somewhat crude metaphor, neither on earth nor in heaven, but suspended midway between. Not on earth; for it is freed from the irrelevant psychical setting, which would constitute it an actual thought occurring as a term in the series of modifications of an individual's consciousness. And it is not in heaven;

for it is not substantial, but a 'wandering adjective' waiting to be joined to the substantial reality" (p. 116). And therefore we cannot pass continuously from ordinary concrete thinking to the ideal of truth, which is a perfectly harmonious and systematic whole. But the reason for this failure is surely obvious. The ideal of truth which Mr. Joachim describes is not truth at all. It is the Absolute. Moreover, Mr. Joachim wrongly describes ordinary concrete thinking. According to his analysis, there are three factors, first the mental fact whereby we think, secondly the object thought, which is content divorced from the mental fact, and thirdly reality, which is further from the mental fact than is the content which is applied to reality. And therefore Mr. Joachim concludes that we can never get away from some form of the correspondence notion of truth, because we can only regard the truth of our thinking as some degree of correspondence between the objects of our thought, which are merely ideal, and a further reality. Now if there is a truth in the view of the nature of thought maintained in the preceding discussion, the correspondence notion of truth, as Mr. Joachim states it, is misleading. It is really a surrender to agnosticism, in that it always points to a reality beyond the object of our thought by which the truth of our thought is to be estimated. Reality is not beyond the objects of my thought to which the objects of my thought, *quâ* ideal contents, refer or are added. If my thought is true, then the object of my thought *is* reality; and even if my thought is not true, reality is not separated by a great gulf from my object, but continuous with, although more comprehensive and harmonious than, my object.

The error which is at the bottom of the whole Bradleian epistemology is the illegitimate abstraction whereby Mr. Bradley seizes upon the mental factor in any given whole concrete situation as being itself that whole situation, or at any rate the only existent in that situation; for by this abstraction he is forced to regard the not-self, which is, after all, in some way different and apart from the self, as mere content. This step, further, leads to what is really agnosticism, for it means that reality, to which all content refers, is not merely wider than, but beyond, the object of thought, beyond any system of content that I can reach at all. If thought were consummated, he says, the system of content with which thought works would be extended and differentiated until it was completely harmonious and self-consistent and restored to existence. But restored to what existence? To the existence from which it is divorced, namely, the ex-

istent mental event? Or to some existence which is further from the mental event than is the content? This is a question Mr. Bradley seems to boggle over. He has denied all along that there is any existence over and above psychical existence. And yet in his account of judgment he sometimes writes as though the ideal content employed in judgment referred to an existence not that of the mental fact involved in making a judgment. This certainly seems to be the meaning of the paragraph on pp. 164-165 and of p. 168. And this seems to be the teaching of the *Principles of Logic*. "Judgment proper is an act which refers an ideal content (recognised as such) to a reality beyond the act" (p. 10). When he is thinking of the primitive "whole of feeling" from which self and not-self have arisen, and, moreover, thinking of it as an illustration of the consummation of thought, and, again, when he is thinking of judgment by means of images, which are psychical and which "supply" the content predicated, then he writes as though the existence, to which the content in which thought consists is to be restored, were the psychical existence of the mental fact of the moment. And, indeed, such existence is the only existence that his doctrine of feeling and perception allows. On the other hand, when he asks what we mean by making a judgment, when he tries to analyse the judgment as it stands, apart from this pre-possession, especially in the case where I predicate of an object perceived what is also given in perception, he seems to regard the existence to which the harmonious and all-embracing system of content must be re-joined, in order to attain consummation, as existence further from the mental event than is this content.

If we take the first of these alternatives we get something which baffles one to think out, even in its general nature. I simply cannot think what would happen if any 'thing' that I seized upon, as, for example, the paper I am writing on, were joined to the mental existence of my momentary state. Should I become the paper, or would the paper become I, or what would happen? Much less can I think out what would happen if a perfectly harmonious system of content were restored to that mental existence. But at any rate, I see no reason to regard such a consummation as the ideal of thought. Just as he says that feeling alone is immediate and gives us actuality, so Mr. Bradley seems to think that such a consummation would yield the Absolute. But it is difficult to see how this can be. For Mr. Bradley believes in different personal "psychical centres" and also in the flow of consciousness. The actual, he believes, is confined

to a series of momentary events which arise in such "psychical centres," and these events can never be brought within a system of content, for they are immediate and not relational. "In our reality we have the fact of sensible experience, immediate presentation with its colouring of pleasure and pain. Now I presume there is no question of conjuring this fact away; but how it is to be exhibited as an element in a system of thought-content, is a problem not soluble" (p. 170). Now if he asserts this, how can Mr. Bradley maintain that we get the Absolute when a perfectly harmonious system of content is joined to any such momentary event? The given, he would insist, is not a series of discrete atoms, but neither is it a blank series. It is possible to detect the flow of consciousness occurring in a "psychical centre" as a series of "this-now-mines," or immediate presentations. A perfectly harmonious system of content united to such an actual fact occurring in my "psychical centre" would be different from such a system united to a fleeting moment of your given, and would be different also from a perfectly harmonious system of content united to a different moment of my given. And, therefore, such a consummation is no consummation, and cannot yield the Absolute. This consideration really means the break-down of any attempt to work merely with given momentary actual facts. If you limit the actual to fleeting psychical events, and regard any not-self which goes beyond the present moment as ideal, you can never pass by means of thought to a comprehensive and all-inclusive system of reality. If you "take the indefinite plurality of the 'this-nows,' or immediate experiences, as the basis and starting-point" (p. 305), and regard everything else as mere content, you cannot, by way of thought, attain to the Absolute. The whole notion of the restoration of content to existence is a metaphysical absurdity, but it is even more difficult to understand how the Absolute can result from the union of a perfectly harmonious system of content to a fleeting mental fact.

On the other hand, take the second alternative, and say that a perfectly harmonious system of content is to be restored to an existence further from the mental event of the moment than is this content. This view seems to be more in accordance with common notions about the nature of thought and judgment, for when I judge that this paper is white, for example, I do not intend to predicate an ideal content of the mental fact of the moment, but of something not myself. But again it is difficult to see how we can thus arrive at the Absolute. Because in this case we have left outside the

existent mental fact of the moment. When I think or judge, the primitive "whole of feeling" has broken out into content divorced from existence. But content cannot emerge without a "that" from which it has been divorced, and this "that" is some momentary mental fact. If an all-comprehensive and harmonious system of content were to supervene on my original "whole of feeling," still there would be this mental fact; and if such a system of content is joined to an existence which is not that of the mental fact, then this mental fact (and also, of course, other mental facts occurring in other "psychical centres," as well as other mental facts occurring at other times in the same "psychical centre") is left on our hands. And so, again, there is no passage by means of thought from the actual, from given fact, to the Absolute. Again Mr. Bradley's doctrine that the actual is confined to fleeting psychical events, so that every not-self which goes beyond the moment is ideal, is fatal to his doctrine that the re-union of a perfectly harmonious system of content to existence will yield the Absolute. If the actual is confined to "immediate presentation," to momentary psychical events, there is no passage by way of thought to the Absolute; and if there is a passage by way of thought to the Absolute, the actual is not confined to such events, but every not-self is actual.

Moreover, this second alternative involves a further difficulty. If every object that I seize upon, every content which I make use of in judgment, is a mere "what," which for ever refers to a subject which it is not, then, for us who judge, reality is just as much beyond my thought as the Kantian thing-in-itself. There is no thing-in-itself for Mr. Bradley, whose metaphysical criticisms of the ordinary categories of thought have led him to the doctrine of an all-comprehensive and systematic whole, in which everything is included, completed and harmonised, and who puts forth his epistemological theory with this metaphysical doctrine always at the back of his mind. But for my part, if I am limited to what Mr. Bradley's epistemological doctrines allow, then for me the reality to which any content I seize upon refers is a thing-in-itself; for this reality is not merely more comprehensive and systematic than any objects I can seize upon, but for ever beyond, and disparate from, such objects.

II.—MIND AND BODY.¹

BY J. S. MACKENZIE.

THE nature of the relation between Mind and Body is a subject that has concerned philosophers in every age, and that has, indeed, gradually come to be recognised as constituting the central Problem of Philosophy. Within its scope five main problems arise : (1) the exact meaning of Mind ; (2) the exact meaning of Body ; (3) what is to be understood by speaking of a relation between them ; (4) what are the chief difficulties in thinking of this relation ; and (5) how are these difficulties to be met.

I cannot hope to deal at all adequately in this paper with all these problems—especially with the first two and with the last. The utmost that I can aim at is to prepare the ground for their more thorough discussion, and to suggest means whereby some of the most obvious difficulties may be removed. I begin, however, with some consideration of the first :—

1. *The Meaning of Mind.*—It is not altogether easy to see what we really mean when we speak of Mind. We seem to know what is meant when anyone says that something is in his Mind ; when Charles Lamb jestingly said that he (or that Wordsworth) could have written 'Hamlet' if he 'had a Mind to' ; or when it is said that Psychology is the science of Mind. Yet probably something different is meant in each of these instances, and it would be difficult to state each meaning precisely.

Descartes deserves great credit—certainly all the credit that he has received—for his resolute effort to understand what is meant by Mind ; and yet it can hardly be denied that the treatment of this problem by him, and by some of his immediate successors, tended in a considerable degree to confuse the issue and to create unnecessary difficulties.

¹ A paper read to the Philosophical Society at University College, Cardiff. In revising it for publication. I have been greatly helped—especially in the first half—by my friend and former pupil, Mrs. Lightfoot Eastwood.

Descartes, as we know, sought to ascertain the nature of Mind by studying conscious states. His view may, I think, be fairly expressed by saying that he regarded Mind as a name for the sum-total of our conscious states considered as belonging to, or being modes of, a certain persistent unity, which he called Self. This view led rapidly, and I believe inevitably, to the doctrine of Hume, according to which no such unity is discoverable. Subsequent reflection, however, and especially the development of scientific analysis, has led to the recognition that Descartes' way of putting the matter was, if not erroneous, at any rate somewhat premature.

The modern psychologist usually hesitates to describe psychology as the science of Mind. He believes that he is trying to give some account of the conscious states and processes that are connected with human, and perhaps with animal, organisms; but he does not consider it to be his business to determine either what the minds are, to which these conscious states are more or less vaguely referred, or what the bodies are, with which they are regarded, in a more or less vague way, as being connected. Hence it is usually, and I think rightly, said that psychology, as pursued in modern times, is the science of conscious states and processes. As far as possible, I believe it ought to confine itself strictly to this, and I am rather sorry to notice that some recent writers on the subject are trying to make it something more. The study of these conscious states and processes, however, constantly leads us to refer, on the one hand, to conditions that are subconscious or unconscious, but that yet in some way seem to enter into and affect the stream of our conscious life, and, on the other hand, to the physical antecedents and concomitants of those conscious states and processes that we are endeavouring to study.

Now, it used to be customary to say that everything that is, in any direct way, involved in our conscious states or processes, is contained in *our Minds*. In this way the Mind was regarded as 'given,' and the problem concerned the manner in which it obtained, contained, or combined ideas. Later thinkers reversed this problem by taking Ideas as given, and seeking to explain—or to explain away—the Mind by them. Descartes, in particular, seemed to think of the mind as a sort of chamber, which might be compared to a picture-gallery—the pictures being what he called Ideas. Most of us have, I suppose, with more or less definiteness, abandoned this way of thinking. For, indeed, if we press the view of Descartes as far as it will go, we come, I think, to the conclusion—not only of Berkeley, that the whole material system

so far as we know it is in our minds; but to that of Leibniz, that everything is in our minds, including even the minds themselves; and consequently that, in a sense, every mind is in every other mind.¹ A result of this kind ought certainly to give us pause.

The only ground, so far as I know, for any such theory, is that we are conscious or aware of certain things; and it is assumed that this may be correctly expressed by saying that these things are in our minds. Now, until we know more definitely what we mean by our minds, we can hardly say whether this is true or false. At the outset, at any rate, it is safer not to say so, unless we can show that we are helped by so doing; and, it seems to me that, on reflection, we are hindered, rather than helped, by such a mode of speaking. To say that the things we apprehend are in our minds tells us nothing more than that we do apprehend them.

Malebranche made a more considerable advance, I believe, than has commonly been recognised, when he said that we apprehend Ideas, not in our Minds, but in God. Nevertheless, it does not help us, at least at the outset, to say with him, that we see them in God.² It is surely more simple to say that we apprehend them in the Universe or in Reality, if we must say that they are *in* something. Perhaps some of them, at least, should not be said to be *in* anything. I think we shall find, on reflection, that when we say that the things we apprehend are in God, we use the term God to mean the Universe; and when we say that they are in our Minds, we use this term also to mean the Universe, or we are at least entering upon a line of thought which would soon lead to that—in other words, to Solipsism. Although it may be that the Universe, or the whole of Reality, is rightly called God, or is rightly called Mind, still, we ought not to begin by calling it either until we have considered its nature somewhat carefully. It is certainly confusing to say at the outset that a thing is in our Mind when we only mean that it *is*, and that it has some connexion with those other things that form altogether what we call the Universe or Reality. If I learn, for instance, that the earth revolves round the sun, I become aware of that fact; and when I say that it does so, I mean that it revolves in the Universe or in Reality. If I choose to call the Universe Mind, and to appropriate that Mind to myself, which I may possibly have some ground for doing,

¹ This seems to be a fair summary of one aspect of the theory of Leibniz, though no doubt it is not one that is quite easy to reconcile with some other aspects of it.

² See, however, what is said below in the concluding remarks.

then I may say that the earth revolves round the sun in Mind, or in my Mind. I do not, however, add anything thereby to the fact of the earth revolving round the sun, unless I mean by Mind something quite different from the experienced fact. In that case it may possibly be a tenable hypothesis.

Now, when people discuss the relations between Mind and Body, it is clear, I think, that what they are usually referring to is not Mind, in the sense in which it may be equivalent to the Universe, but rather the conscious states of some individual man or animal. Hence, in considering the relation between Mind and Body, it is best to begin by setting aside the term Mind altogether and recognising that we are only considering the relation between what we call Body and certain Conscious States. It is this relation, then, that we have first to consider. After this has been done, we may proceed to inquire whether there is any other sense in which a relation between Mind and Body may be intelligibly affirmed.

2. *The Meaning of Body.*—There is certainly some difficulty when we seek to determine the exact meaning of Body. We usually mean by it those objects that we apprehend in space and time, and that we regard as standing in certain definite relations to other things of a similar kind. After thinking some time about such objects, we are naturally led, moreover, to think of a physical system as a whole of which these various things are parts; and what we call the physical and natural sciences try to determine the exact way in which the various parts of that system are connected with one another. This system is what we commonly call the system of Nature, and the advance of the natural sciences has led us more and more to think of it as forming a self-contained and coherent whole.

But now, there are other objects which some conscious beings apprehend besides this physical system. Some conscious beings are aware of conscious states, as well as of a physical system. They are aware of being pleased, of choosing some things and rejecting others, of forming certain judgments and declining to form certain others; in fact, of a whole series of conscious states and processes, which are not referred, at least in any direct way, to the physical system. They are thought of as occurring in time but not as occupying space. Again, if we think of a circle or a triangle, and try to prove that some property is involved in it, that circle or triangle is an object about which we think, and of which we are aware; but it is not a conscious state, nor yet is it one of the bodies in the physical system. We apprehend it as spatial, but not as something that occurs in

time; and we do not assign to it any definite place in either the spatial or the temporal system. Again, when we think of Number or of Goodness, of Beauty or of Likeness, we are certainly thinking of something, and yet it is of something that we regard neither as a conscious state nor as a body in the physical system. Further, if we have a dream, or if we invent a story, we are thinking of things and events in space and time, which, on reflection, we find that we are unable to place within the physical system. These at least, you may perhaps say, are only in our minds. It may be so, but I doubt whether it is quite a correct statement to make. At any rate I think it will be best to confine ourselves, for the present, to saying that they are things that we apprehend, and that at first appear to have a place in the physical system, but are seen afterwards not to have a place, or at least not to have the place that we at first supposed.

3. *The Relation between Conscious States and Body.*—Now, however wide or narrow an interpretation we give to Body and Nature, it seems clear that there is at least one relation that we may state as existing between Bodies and consciousness. We may certainly say that Bodies are included among the objects of which certain conscious beings are aware. No particular theory with regard to the nature of conscious beings or bodies is needed to enable us to say this. It would be admitted, I suppose, by Plato, by Berkeley, by Hume, by Kant, and by Hobbes. We are certainly aware of chairs and tables whatever their intrinsic nature may be; and we certainly think of them as being in a certain place at a certain time, and as being connected with a number of other things around them. As we have already noted, we are led from the consideration of these to think of a physical system as a whole, within which these various things are parts, and which is sometimes called the system of Nature. When such a system has been thought about, we may certainly say that some conscious beings apprehend it. They apprehend it, moreover, not as something that is *in their minds*, but as something that is in the Universe or Reality. We may therefore say that some conscious beings are aware of bodies and even of a system of bodies; and that this is one way in which some forms of consciousness are related to Body—the way of apprehending it, and judging about it, and referring it to the Universe or Reality. In other words, our conscious states contain, or it may perhaps be better to say that some of them *are*, the apprehension of a great variety of objects, some of which we refer to what we call the physical system; and these we term Bodies, in the wide sense of that word.

4. *Difficulties in Thinking of the Relation between Conscious States and Body.*—And now we are coming near to the point at which a difficulty is raised. The sciences that are concerned with this physical or material system have been gradually finding out a good deal about it. Among other things they have established a certain general principle that appears to hold in it, which is called the Conservation of Energy. This states, as I understand it, that the energy of an isolated system is constant, and that any loss of energy in one limited system corresponds to an equivalent gain in another. Energy can be transformed into most varied forms, but its amount is neither increased nor diminished by any number of such transformations. Wilhelm Ostwald, one of the best writers on the subject, defines energy as 'everything that can be produced from work or which can be transformed into work'. The numerical value of any form of energy is most accurately expressed in terms of the unit of work—the erg, that which communicates unit speed (one centimetre per second) to unit mass (one gramme) in unit time (one second). The formulation of this doctrine has led men of science, as it previously led Descartes and some other philosophers (although they formulated it in a way that modern science has shown to be very untrue), to regard all changes in the physical or material system as capable of being interpreted as transformations of Motion. Indeed, it is hard to see how any exact science with regard to the physical system would be possible at all without some such hypothesis¹; though opinions may very well differ as to the best form in which it may be stated.

Now, it is here that the chief difficulty arises with regard to what is commonly called the relation between Mind and Body, which is, I think, more accurately called the relation between the physical or material system and the facts of our conscious life. The point is, that when, for instance, we become aware of pain, our awareness of the pain is not a motion in the physical system; and when we choose to go to the right, in a crowded street, instead of going to the left, our choice is not a motion in the physical system; and yet our awareness of pain seems to be causally related to certain antecedent movements; and our choice seems to be causally related to certain consequent movements. The difficulty is that in the physical system it seems possible to interpret causation as transformation of motion; whereas in the cases just referred to it seems necessary to interpret it as a relation

¹ In this sense the principle may be said to be an *a priori* one, though that is an expression which it is probably better to avoid.

between Motion and something that is not Motion. Yet, as the causation is in these cases partly within the physical system, it is difficult to allow that there can be two different modes of causal sequence within it.

5. *How these Difficulties may be met.*—Now, as we know, there are a variety of ways in which it has been sought to meet this difficulty; and most of them are not very satisfying, though some of them are more so than others. We may, for instance, deny that the doctrine of conservation holds universally within the physical system; or we may say that conscious processes go on parallel to physical processes, and that there is no real connexion between them. But the latter view is flagrantly opposed to our ordinary experience, and its weakness has been pretty fully exposed by James Ward; and the former, which has been very plausibly maintained by Poincaré and other recent writers, and is perhaps more tenable, cannot easily be allowed by anyone who has studied the considerations on which the physical law is based.

It seems to me, however, that a comparatively simple way of meeting the difficulty can be stated; and one that may help to throw some light upon the real relation between Mind and Body. It is, first of all, necessary to realise that the point of view from which the doctrine of the Conservation of Energy is formulated, is one that gives us an outlook only over a limited field; not only in the sense that it is confined to the physical system, which is certainly not the only system that we apprehend, but that even that system itself is regarded in a limited way.

The principle of conservation is solely a quantitative principle.¹ It tells us nothing concerning the qualities or directions which we apprehend as belonging to the physical system; and yet we never do apprehend phenomena, belonging to this system, bereft of all these determinations. When the mode of motion involved in Light is transformed into the mode of motion involved in Heat, it may be quite true to say that the amount of Energy, estimated in terms of work, remains unchanged; but it would obviously be very

¹ The statement of William James (*Some Problems of Philosophy*, p. 206) seems to me to be substantially true. “‘Energy’ is not a principle at all, still less an active one. It is only a collective name for certain amounts of immediate perceptual reality, when such reality is measured in definite ways that allow its changes to be written so as to get constant sums. It is not an ontological theory at all, but a magnificent economic schematic device for keeping account of the functional variations of the surface phenomena.” It is important to recognise, however, that the physical system does ‘allow its changes to be written so as to get constant sums’.

untrue to say that no change at all has taken place. Light is not the same thing as Heat. I am not here raising the question whether what we call colour and what we call warmth can properly be ascribed to the physical system at all. That may or may not be the case. Apart from that, however, it is at least true that the form of motion is in the two cases different ; and a change of form is surely a change quite as truly as a change of amount. From a quantitative point of view, a motion to the right may be regarded as the same as a motion to the left ; but the one is formally different from the other. This point has been urged with great lucidity by the German writer Goldscheid, in his paper on the Conception of Direction ; but it also seems to be pretty definitely recognised by Sir Oliver Lodge and by other prominent physicists. In like manner, a vibratory motion may be equal in amount to a motion in a circle or in a straight line ; but it differs from each of them in form. The pointsman on a railway line does not add to the activity of the trains, nor (apart from some loss by friction) does he take anything from it, but he may make a great difference in the direction of the motion.

Now, I believe that I am right in saying that science knows very little about the conditions under which formal transformations take place. Certainly the law of the Conservation of Energy does not explain them. Yet any real interpretation of causal relations would have to explain them. No one really understands, for instance, how Life is produced ; and I believe that we are equally in the dark ¹ as to the origin of electricity, or heat, or light, or any other form of energy with which science deals. All that the general mechanical theory tells us is that, in the various transformations of these, the actual amount of energy, as estimated in a certain way, remains unchanged. We know also that there are certain regular ways in which such qualitative changes take place ; but this knowledge does not *explain* the changes, nor does it reduce the qualitative change to a quantitative one.

This principle seems, indeed, to be demonstrated in the organic as well as in the inorganic world. The researches of Rubner and Atwater have apparently shown that, within the limits of error, the sum of the energy which enters the adult organism is identical with the sum of the energy which leaves it. It seems probable that the principle may also be shown to hold in the case of a developing organism, al-

¹ Though of course much more is known with respect to the conditions of its generation.

though its experimental proof might present greater practical difficulty.

Now, it does not seem to be necessary to assume that the *amount* of energy in the physical system is in any way interfered with by the presence of conscious processes. It is enough if we may suppose that its *form* is in some way affected. The amount of energy expended may be the same whether I move to the right or to the left; but the movements are not the same, and their difference may be of considerable importance to me.

Now, is there any real ground for denying that a change of this kind may be brought about by choice? The only ground appears to be that choice is not a fact within the physical system. But it seems to be quite possible that *all* the formal differences within the physical system may have to be accounted for by facts which are not within that system. Apart from those who follow the older theory of psycho-physical parallelism, Huxley was the writer who, in recent times, most definitely maintained that choice must not be regarded as affecting the physical system. He regarded the facts of consciousness as epiphenomena, that is, as something over and above what is contained in the material system, and as not affecting that system.

They really do seem to be epiphenomena in the former sense; but is there any adequate reason for believing that they are so in the latter sense? There certainly seems to be no room for the facts of consciousness within the physical system, as mechanically conceived, that is to say, as conceived as a system of Motions. But there are many things for which there is no room in that system. There is no room for warmth in it, none for colour, none for beauty, none for goodness, none for purpose.¹ Yet surely all these things must have some reality, more especially as they are not simply *facts of consciousness*, but are also objects apprehended by consciousness.

Now I believe that there is no ground for thinking that the presence of these things has no effect upon the physical system. If I see that something is good, there is no reason why I should not choose to bring it about. If I do choose

¹ Some would add 'none for life'. See, for instance, Driesch's 'Gifford Lectures'. It is not clear to me, however, that the movements involved in vital processes, apart from consciousness, present, in principle (apart from their complexity), any greater difficulty than other movements, unless, indeed, it be true that all life implies something of the nature of choice; and this is a point that I do not at present wish to urge. It raises the whole question of the place of purpose in the Universe.

to bring it about there is nothing to prevent me from looking round for suitable means to reach it; and when I find such means as are capable of being realised by a movement of my bodily organism, my choice appears to lead to such a movement. This does not mean that any fresh energy is created; but it does mean that a certain kind of motion takes place, rather than another kind, and that it takes place as a result of my act of choice.

I believe that there is no more difficulty in understanding this than there is in understanding any other formal transformation within the physical system. It seems to me, therefore, that there is no fundamental difficulty in recognising a real relation between body and conscious states. In this, as in other cases, all that we can ultimately say is that the Universe is such that changes of this kind do take place in a certain regular way.¹

6. *The Relation between Mind and Body.*—But now we have to ask—Is the recognition of this the same thing as the recognition of a real relation between Mind and Body? I believe it is not quite the same thing. When we speak of Mind, we do not simply mean the fact of awareness. We mean rather something to which we refer that fact. To be aware is a sort of *act*. We express it by a verb; and we have at least a natural tendency (which may be misleading, but can hardly be ignored) to refer adjectives and verbs to substantives. We mean by Mind, I think, something that is capable of being aware, and that, in some sense or other, persists throughout a series of facts of awareness. We mean, in fact, the man himself, and not anything that he can, properly speaking, be said to have. If I am aware of pain, for instance (*i.e.*, the organic sensation of pain²), the pain appears to be one thing—a definite quality of experienced object; my awareness of it is another thing; and I, who have that awareness, would seem to be a third. Of course I do not mean to imply that these things are *separable*. I only say that they appear to be *distinguishable*. What, then, is this 'I,' this subject or Mind?

Now, at this point, there are some, as we all know, who would be inclined to say that, since Mind is not simply one

¹ That we cannot help thinking of them as taking place in a regular way, or, as he says, 'according to a rule,' seems to be the gist of Kant's answer to Hume.

² It may be doubted whether the same can properly be said of pain in the sense of simple disagreeableness or disliking. Most psychologists do not distinguish these two senses with sufficient clearness. Professors Külpe and Titchener are among the most satisfactory in this respect.

of the two related objects of which we have been speaking, it must be the other. Since it is not simply states of awareness, it must be regarded as some form of Body. The usual way of putting it in modern times is, of course, to say that it is the *brain* that thinks and is conscious. In ancient times there were other ways of putting it. Empedocles considered that it is the *blood* that thinks. Others have held that it is the *heart*. We smile a little at such opinions now; and it is possible that, by and by, we may smile at the view that consciousness is to be referred simply to the brain. At any rate, I am inclined to think that our brains are things—very important things—that we have and use, but are not ourselves. Yet what I am anxious at present to urge, is that this materialistic view is not lightly to be set aside. Much of our modern 'idealism' is much too facile; and it is well that we should consider carefully what is to be said on the other side.

It is easy to see that states of consciousness are not the same thing as states of brain; just as colour is not the same thing as vibrations of ether. This is admitted by most writers in modern times—even by those who, like Huxley, lean most strongly to materialism. It would not have been admitted, I suppose, by Democritus or by Hobbes. To admit this, however, does not carry us very far. It does not follow from such an admission, that the brain, or the organism as a whole, may not be the substantive to which states of consciousness are to be referred. If so, the relation between mind and body would really be a relation between body and body. What we should have to say, in that case, is that, when certain bodies stand in certain relations to each other, consciousness arises. Consciousness would still be something different from body, but it might be held that it is the awareness which one body has of another; and it might even be held, as some do hold, that every body is, in some sense, aware of the other bodies that surround it.¹ It would still be true that there are other things than matter. Hence Huxley, for instance, rightly enough denied that he was a pure materialist. Awareness would still be one of the things that have to be distinguished from matter. Colour would, I suppose, be another. Goodness and beauty would perhaps be others. But Mind would not be one of them.

Now, I stated at the outset that I did not hope, in this paper, to determine what mind is; but it would certainly be

¹ Prof. Alexander, for instance, appears to hold this. But it is not very obvious what is to be understood by cognition or awareness in this sense, or what ground there can be for ascribing it to inorganic material objects or to plants.

very unsatisfactory to break off at this point without some sort of indication of the direction in which an answer is to be sought. We may do this by inquiring what is implied in the supposition that has just been referred to. If we say that mind is body, we must at least ascribe to body powers that are not recognised in it when it is treated in a purely mechanical way. We must mean by body not merely something that can move in space, but something that can generate warmth and colour and pleasure and pain, and the apprehension of number and likeness and goodness and beauty; and we shall find it difficult to deny that the apprehension of these has some influence on the motion of bodies in space. To ascribe such potentialities to body would be, in effect, to spiritualise matter, rather than to materialise spirit. It would not make much difference to our general view of the universe, whether we say that everything is matter or that everything is spirit, if we mean simply that reality (by whatever name we call it) is such as to contain the possibilities of choice and of apprehending what is true, beautiful, and good. It does, however, no doubt make some difference what place we assign to such conceptions in the ultimate determination of reality. It makes some difference whether we think of conscious choice as only a casual incident in a whole that may in the main be described as a system of matter in motion; or rather think of matter and motion as partial aspects of a whole which must be otherwise characterised. But the consideration of that question lies beyond our present scope. What I am at present urging is that it is wrong to identify mind simply with states of our conscious life. We ought to think of it rather as that to which these conscious states may be referred.

In asking whether we can say anything more positive about mind, it must be remembered that all that we are able in general to say about anything is to describe the way in which it acts; and we may even be wrong in supposing that there is anything more to be said. Physicists in general postulate the existence of an ethereal medium through which the vibrations that give rise to the experience of light are conveyed. What is that ethereal medium? The answer would seem to be that it is something existing in the spatial and temporal system capable of vibrating in a particular way, and perhaps also capable of retarding the motion of the earth, and of acting in various other ways. It was, I believe, the late Lord Salisbury who said that it is merely a substantive for the verb 'to vibrate'; but it appears to be rather more than that.

Now, what did Charles Lamb mean when he said that he could have written 'Hamlet' if he had a mind to. He meant if he had the mind which, as a matter of fact, belonged to or was the person we call Shakespeare. Now, what was Shakespeare? Following the same method of description as that used for the ethereal medium, we may say that he was a being existing at a particular time and place (contemporaneous with, but distinguishable from, the other person called Bacon), capable of writing 'Hamlet,' and also of writing 'Othello' and several other works, and of doing various other things of which we have more or less definitely heard. The states of consciousness involved in doing all this were very various and very evanescent. The brain was also evanescent. The writings, so far, remain. What about himself? To answer this question at all thoroughly would carry us very deep into the nature of reality. I can only indicate very briefly and roughly what I believe to be the general nature of the answer that we have to give.

Reality is a whole, containing space, time, motion, and any other characteristics that we refer to the physical system; but containing also choice, purpose, and any other characteristics that we refer to conscious life. In this sense, I think we must say that we can only think of the whole—if we are right in regarding it as a whole at all—as a spiritual unity, of which all existing things are parts. All of these parts, however, have qualitative, as well as quantitative, aspects; and to these qualitative aspects the relation of whole and part is not applicable. Human beings, in particular, who, from the purely quantitative point of view, may certainly be described as parts of the whole, have also qualitative characteristics of their own, which show themselves in the special features of their conscious experience. These qualitative aspects are emphatically their own; and it is chiefly on account of these that we are forced to recognise that reality is a many as well as a one. It is here, I believe, that such a system as that of Spinoza is in error, and that one like that of Malebranche is nearer the truth. Spinoza treated the purely quantitative or extensive aspect of reality as being essentially identical with the qualitative or thought aspect. This was, of course, the foundation of the doctrine of psychophysical parallelism. Malebranche, on the other hand, held that, though the bodies that we apprehend are rightly regarded as parts of a systematic whole, which is spatial, the consciousnesses that apprehend these bodies are not rightly regarded as parts of a similar whole. Though this view, as stated by Malebranche,

needs some correction, it appears, on this particular point,¹ to be nearer the truth than the view of Spinoza.

But of course the question still remains—Are we right in saying that this conscious individuality is simply to be referred to a particular organism, existing at a certain place and time? Or are we entitled to ascribe a more persistent form of being to it? It seems clear, at any rate, that, as we know it, it is very closely connected with a particular organism. Our conscious life is undoubtedly bound up very intimately with the condition of the brain and nervous system, and indeed also with the condition of the blood and digestion. Could any one, for instance, understand Carlyle without taking account of his dyspepsia? But it seems equally clear that our conscious life is also bound up with a good many other things. Could anyone be properly understood without considering the books that he has read, the traditions in which he has been brought up, the language he speaks, the form of social life of which he is a part, the station, with its duties, to which he recognises himself as belonging? That Carlyle was born in Scotland, and associated with the traditions of English Puritanism, are facts even more important for the understanding of him than his dyspepsia. Are any of these the man himself? Or should we rather describe them as the conditions in which he lives and the instruments that he uses? If we say that *some* of them are properly conditions and instruments, it is not very obvious that any of them can be singled out as being more than that.

The question, of course, that naturally strikes us as being of chief practical importance in this connexion, is that with regard to the persistence of the individual life. The physical organism, though having a certain persistence, in contrast with the fleeting states of our conscious life, has also pretty obvious limitations. It has, as Heraclitus puts it, its 'way up' and its 'way down'. It is born at a particular time and place; it grows up under certain conditions; it decays and is eventually dissolved. Are we to say that the mind or self (however otherwise distinguishable) has the same time-limits as the bodily organism with which it is connected? Or is it possible to regard it as having a more persistent mode of being? Now there are two ways, I think, in which this problem might be approached—perhaps even three.

The first is the purely empirical way. We might study the persistence of mental facts, as we study the facts about light. We find that most of the light that we experience is

¹ I need hardly add that I am not urging the superiority of any other aspects of his philosophy.

to be referred, more or less directly, to the sun. That is, in a sense, the substantive to which its activity can be traced. Yet we know also that light is not confined to the sun, but can move with immense rapidity throughout space, and be reflected from one body to another. We might be able to find out similar facts about mind; and of course, to a certain extent, we can. Thoughts and feelings can be transferred from one conscious being to another. In that sense, at least, some spiritual things can persist beyond the limits of the individual organism. And it is certainly conceivable that facts might come to light which would lead us, in a still more definite way, to ascribe the facts of our conscious life to something more persistent than the bodily organism. This is what some are seeking to establish by means of 'psychical research'; and it is certainly quite conceivable that this empirical method might throw light on consciousness as it has done on other modes of action. The brilliant work that has been done by Myers and others in this direction may be held to justify the conviction that we are on the eve of great discoveries. It must, at any rate, be recognised, I think, that this is a legitimate method of inquiry; though it seems to be true that the facts brought to light by psychical research, so far, are, for the most part, rather of psychological than of metaphysical interest; and that, even when they appear to have metaphysical interest, they do not throw any definite light on this particular point. Some of them may lead to the view that our ordinary conceptions of space and time need reconsideration; and that action at a distance is more possible than has been commonly supposed. But the actual persistence of individual personality beyond the life of the organism does not appear, as yet, to have been established in this way.

Another method that might be adopted is that of mystical intuition. One of the most striking illustrations of this in recent times is to be found in the doctrine of Count Keyserling,¹ who maintains that we may apprehend the reality of Self in a way wholly different from that in which we apprehend the reality of phenomenal objects; and that in this apprehension of it its essential nature, as an entity that eternally persists, is revealed. But I doubt whether this really means more than that we apprehend it as feeling, choosing, and judging—i.e., as acting in ways that are different from those that we seem to be entitled to ascribe to material objects.

¹ Especially in his *Prolegomena zur Naturphilosophie*. His view seems to be based largely on those of Schopenhauer and Bergson.

If these two ways—the purely empirical and the mystical—fail us, we are left to try a method that is definitely meta-physical. This is a long and difficult method, and one that is sometimes not a little disheartening; but I believe it is in the end the one that is most hopeful. I can only very briefly indicate here what I understand the nature of this method to be. It does not consist—as some are apt to imagine—in giving such an account of the nature of knowledge as to show that nothing can be real but that which knows or is known. It is not in that sense, epistemological. It consists rather in trying to ascertain the place that is occupied in the structure of the world as we know it by such realities as choice, purpose, goodness, and similar conceptions.¹ There is no reason for doubting that these are quite as deserving of careful study as motion, number, space, or as colour, sound, and heat. If there are grounds for thinking that such conceptions as that of purpose have an essential place in the general interpretation of the universe, that might be expected to throw some light upon the problem to which we are now referring.

7. *Concluding Remarks.*—It is here, I think, that our modern Realists are unsatisfactory; and I may conclude this paper with a general reference to their position, which I have had very largely in my mind in all that has gone before. Mr. Moore and Mr. Russell² have certainly stated a realistic doctrine with great clearness—a doctrine that has a good deal in common with the older Realism of Plato; and with a great deal of what they say I find myself in very hearty agreement. I think it is a mistake, however, to suppose—as they seem to do—that what they have put forward is a refutation of Idealism, in the sense in which that term is understood by its best supporters. What they have done is, I think, primarily, to refute materialism (if, indeed, that needed any refutation). They have shown, that is to say, that the whole of reality, as we apprehend it, cannot be regarded as being included in the material or physical system.

¹ The attempt that has frequently been made—even since the time of Kant—to prove the permanence of self on the ground of the persistence of substance, appears to me to be quite futile. But I cannot discuss it here.

² Mr. Prichard should also be referred to here. His book on *Kant's Theory of Knowledge* seems to me to contain one of the best statements of the foundations of modern Realism. Most of his criticisms on Kant appear to be sound, but it is difficult to see how he can maintain that *all* Idealism must be subjective. Most of what is called Idealism certainly is; but can either Plato or Hegel be charged with that heresy? Those who say that all reality is experience are probably guilty of it; but are those who maintain that all reality is intelligible equally guilty?

They have also helped to refute subjective Idealism, perhaps more thoroughly than was done by Kant. They have, that is to say, refuted the view according to which the reality of the physical system and of other things consists simply in our awareness of them. By doing this, they have helped also to deliver us from Scepticism, Agnosticism, Philosophic Doubt, Pragmatism, and other forms of pure Subjectivism. But Subjectivism in all its forms is rejected also by all the best idealists from Parmenides and Plato to Spinoza and Hegel. I reckon these as idealists, because they held that what is intelligible is real; though their conception of what is intelligible was no doubt in many cases inadequate. Indeed even Berkeley rejected pure Subjectivism much more explicitly than is commonly supposed. The '*esse is percipi*,' which is so often quoted, gives a very superficial impression of his real doctrine, especially as represented by his later writings.¹

Apart from the refutation of these two doctrines—Materialism and Subjectivism—the positive results of the teaching of our modern Realists, so far, do not seem to me to carry us any great length. They have not done much to determine—as both Plato and Hegel tried to do—the place that is occupied in reality by purpose, goodness, conscious choice; and, in general, by those conceptions that play an important part in human life, as distinguished from those that are used in the determination of the physical system. It is on some such determination that the possibility of a true Idealism rests. A true Idealism, it must always be

¹The mature views of Berkeley should be gathered from his *Dialogues* rather than from his *Principles of Human Knowledge*. The following passage from the third Dialogue is especially worth noticing: 'I do not deny the existence of material substance, merely because I have no notion of it, but because the notion of it is inconsistent; or, in other words, because it is repugnant that there should be a notion of it. Many things, for aught I know, may exist, whereof neither I nor any other man hath or can have any idea or notion whatsoever. But then those things must be possible, that is, nothing inconsistent must be included in their definition. . . . We may not believe that any particular thing exists, without some reason for such belief: but I have no reason for believing the existence of Matter. . . . In the very notion or definition of *material Substance*, there is included a manifest repugnance and inconsistency.' Here it is evident that he rests his 'Idealism'—or rather his Immaterialism—not on the doctrine that '*esse is percipi*' or that 'reality is experience,' but rather on the doctrine that we cannot maintain anything to be real which is not consistent, intelligible, or rational. It is true, however, that this view is not worked out by Berkeley with any thoroughness. It is not altogether unfair, in consequence, to take him as a representative—in contrast with Plato or Hegel—of the more purely subjective type of Idealism.

remembered, is a form of Realism¹; but it is a Realism that tries to think of reality as a whole, and that contends that a real whole can only be a spiritual whole. It does not reduce Reality to modes of consciousness or of experience.

It only seeks to show that the Universe has to be interpreted as being essentially of the nature of a system that contains purpose and choice, and not as a system that is essentially determined by the more purely material conceptions. If such a view can be established, the Universe as a whole may perhaps rightly be called Mind or God—i.e., a being that has to be thought of as containing conscious purpose, and something of the nature of rational choice,² and not merely one that is to be interpreted in terms of Space and Motion; and we may in the end be able to agree with Malebranche, that we see all things in God (though I think we should have to add, like Malebranche, that our conscious life as such cannot properly be said to be in God, or perhaps *in* anything). But it is obvious that anything of this sort would have to come at the end, not at the beginning, of a philosophical construction; and the things that I have been chiefly trying to discuss in this paper are, if not at the beginning, at any rate pretty far removed from the end.

¹ Not of course in that restricted sense in which Realism is defined by Professor Royce in *The World and the Individual*. But that is not the sense in which the term is used by our newer Realists, who include in their conception of reality both the first and the third of the four senses that are distinguished by Royce. It should be remembered that, in the special sense in which Realism is understood by Royce, Berkeley was a Realist. But it is probably better to call those who hold this view Pluralists.

² The nature of Choice stands greatly in need of further consideration than it has yet received. But any attempt to discuss it here would carry us too far.

III.—ARISTOPHANES AND SOCRATES.

BY R. PETRIE.

PROF. TAYLOR'S volume of essays, entitled *Varia Socratica*, has recalled attention to the importance of Aristophanes' *Clouds* for the purpose of forming a true estimate of the life and teaching of the historic Socrates. Many who have been accustomed to accept without question the familiar distinction between a 'historic' and a 'dramatic' Socrates have probably felt in secret that the caricature in the *Clouds* did not exactly agree with their conception of the historic personage. They will therefore have welcomed this opportunity of seeing the case against them, as based on Aristophanes, put at its very worst by the skilful advocacy of Prof. Taylor. It may be that some like the present writer have risen from a study of the chapter on "The Phrontisterion" with a sense of relief, glad that now they know the worst and that it is so much better than they had feared. Others may find the chapter quite convincing and be prepared to admit Prof. Taylor's claims. But it is at all events of the utmost importance in the consideration of his main thesis to weigh very exactly the value of his conclusion in this regard. For here surely, if anywhere, he will carry conviction. It is impossible within the limits of a single article to criticise all his arguments. But one may hold it probable that a large number of his readers will be very dissatisfied with his treatment of the evidence of Xenophon. Entire rejection in a footnote (p. 194) seems a little hard, unless further notice is reserved for the second series of *Varia Socratica*. The very variety of the probable or possible reasons why Xenophon should be disbelieved is suspicious. In particular if the relations of Socrates with the Pythagoreans were so notorious as Prof. Taylor argues in regard to the *Clouds*' caricature, if it be true that "Socrates and his doings were perfectly familiar to the general public of Athens years before the production of the *Clouds*" (p. 132), or again that "the φροντιστήριον and its inhabitants are perfectly familiar to the dullest Athenian peasant" (p. 146); if all this be true, how in the name of common sense could

Xenophon have hoped to protect his master's memory by "preserving silence about all that connected him with a mysterious and suspected sect" (p. 194 note)? Or how, to take an alternative reason, could he be supposed to be ignorant of what the dullest peasant had known? Surely the tradition would not so easily have died in so short a time. "Ah!" replies Prof. Taylor, "we must take the general superficiality of Xenophon's character into account" (p. 194). Well, however superficial, he was at least able to understand and record that Socrates was not ignorant of physics and mathematics—facts which Prof. Taylor is glad to quote in their proper place. Why then should he not equally well have recorded that Socrates believed in and taught a theory of ideas? It would not be surprising if many people found the entire absence of any reference to the *εἶδη* in Xenophon's Socratic books very startling indeed. This, however, is only a digression directed to show that Prof. Taylor can hardly presume to base his thesis on his treatment of the evidence of Xenophon. Nor again, one may conjecture, will his attempt to connect Aristotle's remarks in the *Metaphysics* with the *εἰδῶν φίλοι* of the Sophist be very generally accepted—but that is too long a story even for a digression. His valuable collection of passages illustrating the use of *εἶδος* in writings pre-Platonic and contemporary with the dialogues, however great its merits, will hardly establish by itself that Socrates taught a theory of ideas. It is surely not impossible that he should have taken little interest in the theory, even if well acquainted with it. Or again even if it be proved that the theory of ideas is Pythagorean in origin and that Socrates shared some Pythagorean religious beliefs, it does not follow that he also shared their philosophic doctrines. These assumptions, moreover, are perhaps too generously allowed. For it will not, I imagine, be universally admitted that Prof. Taylor is successful in his attempt to show that "*εἶδος* and *ἰδέα*, wherever they appear as technical terms, alike in rhetoric, in medicine and in metaphysics, have acquired their technical character under Pythagorean influences". His own evidence does not justify the statement that the fundamental meaning of *εἶδος* is 'figure' or 'body' in geometry.

These are but brief hints of the answers that might be made to Prof. Taylor's evidence so far as it is not drawn from Aristophanes. However inadequate, they may perhaps suggest that a great deal depends upon his success in his treatment of the *Clouds* and he himself seems conscious of this fact. Indeed we are explicitly told that "there is not,

and so far as we know there never was, any really faithful historical account of the personality of Socrates except the Academic tradition which goes back to Plato . . . and the brilliant caricature which Aristophanes reasonably thought his own comic masterpiece" (p. x). Let us turn, therefore, to a consideration of the points supposed to be established from the *Clouds*. Prof. Taylor is kind enough to recapitulate the main results for us and he may therefore be allowed to speak for himself. There are six main points (pp. 174-5):—

(1) Socrates stood from the first in very close relation with the last of his predecessors the *φυσικοί*.

(2) He possessed mathematical attainments of an advanced kind.

(3) He formed the centre, or at least a central figure, in a group of permanently connected intimates. . . . The peculiarity of the group, which had a common table, was that it was composed of men who were at once students of mathematics and physics, and devotees of a private religion of an ascetic type.

(4) The Socratic ideal in education was to arrive at an art of statesmanship, only attainable by the study of dialectic.

(5) Socrates has no ready-made knowledge to impart.

(6) Self-knowledge is, with him, the most important knowledge of all.

Now of these six points (5) and (6) are true on any theory of Socrates and are not specially relevant to the thesis of Prof. Taylor. One can only wonder in passing how he reconciles (5) with Books VI. and VII. of the *Republic*, if he identifies the 'dramatic' with the 'historic' Socrates. But that is merely by the way. (3) overlaps to a certain extent with (1) and (2), and in so far as it does not do so, it is irrelevant to the question at issue. For although it may be proved that Socrates shared certain religious beliefs with the Pythagoreans (and all that Prof. Taylor says is that the group is an "Orphic-Pythagorean Community of some kind"), yet it by no means follows that he also shared the Pythagorean philosophic and scientific speculations. We are, therefore, reduced to (1), (2), and (4). It may reasonably be hoped that many people will confirm Prof. Taylor's fear that (4) will be 'scouted as fanciful'. Surely his reasoning here comes remarkably near to "special pleading". He states first of all that "the end to be achieved by a course in the *φροντιστήριον*, as we are expressly told by the *Clouds* themselves, is efficiency as a director of public affairs" (p. 170). (He does not apparently realise that this admission very seriously affects his treatment of the "Refectory" as a

whole. But that point must be reserved for the present.) Taking his stand upon this, Prof. Taylor points out that in Xenophon, too, Socrates is represented as interested in the 'art of statesmanship'. (Poor Xenophon has hit the truth here by some divine mischance!) Again, the Platonic Socrates, it is recalled, always insists on the importance of self-knowledge, just as the Aristophanic. And the preliminary steps of the education in the *Clouds* are enumerated as "the study of musical rhythms and grammar, and practice in the discovery of 'conceits,' which apparently involves practice in logical classification," this last being based merely on the sentence *περιφρόνει τὰ πράγματα, ὀρθῶς διαιρῶν καὶ σκοπῶν*. Having adduced this evidence, Prof. Taylor proceeds, "the whole conception of what goes on in the *φροντιστήριον* thus strikes one as full of shafts aimed at an educational principle identical with that of *Republic* VI.-VII." Now, why this 'thus'? There is not a single statement in the preceding paragraph which would in the least degree suggest a reference to the education in science and dialectic as discussed in the *Republic* VI.-VII. The importance of self-knowledge is not expressly mentioned in these books, nor is the study of musical rhythms and grammar. The whole case, therefore, seems to rest on the presence of the words *διαίρων καὶ σκοπῶν*. Full of shafts indeed! The only resemblance is that in both cases men are being trained to take part in public affairs, but one cannot pass from an identity of ends to an identity of means. Prof. Taylor hardly seems to be clear in this passage whether he intends to argue for a resemblance between the Socrates of Xenophon and Aristophanes, or of Aristophanes and Plato. His note on p. 171 suggests a curiously roundabout contention. Socrates in the *Memorabilia* says that dialectic makes men 'fitter to command'. The aim of the *Clouds*, also, is to teach the art of statesmanship. Therefore Socrates there probably made use of dialectic, as is suggested by the word *διαίρων*. And the result of this inference from Xenophon to the *Clouds* is that one may still further infer that the *Clouds* gives us a burlesque of Books VI. and VII. of the *Republic*! I have attempted to supply the gaps in the argument in the only way that seems possible if the note is relevant. But I hesitate to accuse Prof. Taylor of using this argument, because it involves an identification of the 'dialectic' of the *Memorabilia* with the 'dialectic' of *Republic* VI. such as one shudders to imagine. But in any case, will Prof. Taylor explain the justification of 'thus' in the sentence quoted above? At present the argument would seem to belong to the class entitled "non sequitur"—or, to use the

more violent language suggested as appropriate by the author himself, it must be 'scouted as fanciful'.

Of the points previously enumerated, therefore, only (1) and (2) are left as possessing at once a claim to truth, and an importance for the establishment of Prof. Taylor's peculiar views as to the teaching of Socrates. Those two points are concerned with mathematics and 'physics,' and the suggestion is apparently that Socrates was interested in mathematical and "physical" problems. Before we proceed to a more detailed examination of these points, there is need of a careful statement of the difference between Prof. Taylor's theory and that more commonly accepted. It is one thing to say that Socrates in early life studied, and was attracted by the problems arising from the mathematical and physical science of his day, that as a *learner* he was interested in such speculations. It is quite another thing to say that he retained that interest to the end of his life, and as a *teacher* was primarily concerned with such subjects. Which of these positions does Prof. Taylor mean to advocate? He writes throughout as if it were the second, but an attempt will be made to show that his evidence only establishes the first. It is, indeed, hard to see how the second position can possibly be consistent with his main thesis. For if that thesis be true, it will surely follow that the biography of the *Phaedo* gives us an accurate description of Socrates' mental development. But it is plainly stated in that biography that after a certain period Socrates abandoned the methods of the physicists, and subsequently the theories of Anaxagoras, too, in favour of some other method, the nature of which is not relevant here. He came to the conclusion, he says, that in regard to such studies he was "ἀφνής ὡς οὐδέν χρημα" (96 c). So far from gaining any new light, he has lost the knowledge which he previously thought he had. If then the dialogues of Plato give us a "really faithful historical account of the personality of Socrates," it follows that Socrates at a certain comparatively early period in his philosophic career lost his interest in scientific or physical speculations. The passage in the *Phaedo* does not mention mathematical studies at all (may one use the argument from silence against Prof. Taylor?). But it does mention what we should call biology, psychology, astronomy, and geology. It may be admitted that this is a mere *argumentum ad hominem*, but it is surely a very serious one. It is hard to see how in face of it Prof. Taylor can do other than admit that Socrates' interest in physical speculations was confined to one particular period of his life, and that an early period. Moreover, no more

than that can be established from the *Clouds*. It would be quite sufficient basis for Aristophanes' caricature if Socrates had for some time studied the physical sciences. There is no need to suppose that they remained one of the chief interests of his life. And, indeed, in the first place, Prof. Taylor draws only this conclusion, that "Aristophanes and Plato seem to be in complete agreement about the interest taken by Socrates, *at some time in his life*,¹ in physical questions". But when he restates the conclusion in the summary at the end of the chapter he drops the temporal qualification, and we read only that "Socrates stood from the first in very close relation with the last of his predecessors the φυσικοί". It may be that Prof. Taylor even there only means that Socrates stood in this close relation in his younger days.² If so, the preceding argument is superfluous. But it is worth while running the risk in order to make it quite clear that Socrates' interest in "physics" was only temporary. For if this is all that is supposed to be proved from the consideration of the *Clouds*, it is, of course, by no means inconsistent with that generally received view as to the scope of the Socratic teaching, with which Prof. Taylor seems to quarrel. Even Xenophon, as Prof. Taylor points out (p. 157), records that Socrates had learned his mathematics and astronomy, and studied his Anaxagoras. It was precisely because he had studied physics that he had found out how barren and profitless a study it was, as then pursued, and determined to turn from it to other sciences where the results were at once more certain and more useful, to wit, the science of man and the πόλις (*Memorabilia*, I, i, 10-16). Aristotle's testimony in *Metaphysics*, 987 B, 1-4, "Σωκράτους δὲ περὶ μὲν τὰ ἡθικὰ πραγματευομένου, περὶ δὲ τῆς ὅλης φύσεως οὐδέν," is quite consistent, if we suppose Aristotle to be thinking only of the characteristic occupation of later years. But it shows that ethical investigations were much more important in Socrates' teaching than physical speculations. This is confirmed again by the *Apology*, where Socrates indignantly disclaims all interest in *τά τε ὑπὸ γῆς καὶ οὐράνια*, with a special reference to the accusations in the *Clouds* (19 B-D), and protests against the confusion made between himself and Anaxagoras (26 D-E). According to Prof. Taylor's canon of interpretation, the evidence of the *Apology* ought to be treated as a "faithful account of the personality of Socrates". He does not indeed pass it over in silence, but his answer is very

¹ Italics mine.

² This would seem to be suggested by the passage on p. 159 about the autobiography of the *Phaedo*.

unconvincing. He admits for the occasion that "Socrates at one period of his life had taken a much greater interest in cosmology than he did in his later days" (p. 139). So far, so good. It only remains that Prof. Taylor should accept the evidence as showing that Socrates in his later days took no interest at all in cosmology. Then he will have arrived at the position from which he might have started had he cared to trust Xenophon. But he mars the admission just quoted by the unwarranted suggestion that the evidence of 'common fame,' to which Socrates appeals in the *Apology*, proves nothing as to the ideas which were ventilated *inside* the *φροντιστήριον*, and therefore Socrates may have to the end regaled his more intimate friends with speculations in mathematical and physical science (p. 158 n. 1, and p. 159). Are we to suppose then that 'common fame' knew nothing as to what happened inside the *φροντιστήριον*? If so, what becomes of Prof. Taylor's arguments as to the absurdity of thinking that Aristophanes' caricature misrepresented the notorious Socrates? What are we to make of the statement that "the *φροντιστήριον* and its inhabitants are perfectly familiar to the dullest Athenian peasant"? It may be unintelligent to be unable to reconcile these two positions. Perhaps Prof. Taylor will explain. Meantime he seems to be endeavouring to juggle with the facts.

We may, however, give him the benefit of the doubt on all the points at issue, and place the most favourable interpretation on his views. It will follow that he has proved from the *Clouds* that Socrates was at one time of his life interested in physical speculations, about things in the heavens and on the earth beneath—in biology and psychology. But there is nothing to show how long he retained that interest. There is nothing to contradict the clear evidence of Xenophon and Aristotle, and equally of the *Phaedo* and *Apology*, if they be accepted as giving faithful portraits, that Socrates turned from physics to other branches of knowledge. What these other branches of knowledge were may be disputed. Xenophon and Aristotle agree that they were Ethics and Politics, if the two may be classed together. Plato's dialogues cannot be accepted in evidence until it has been independently proved that they are describing the historic Socrates. They are only quoted against Prof. Taylor as furnishing "*argumenta ad hominem*". But in any case it is proved apparently that the first point in the summary of the conclusion at the end of the 'Phrontisterion' chapter need not lead to any change of views as to the nature of Socrates' teaching, and is in fact not only consistent with the traditional view

but an integral part of it. So far, therefore, we have reached no new conclusion. There remains only the question of Socrates' interest in mathematics.

Here Prof. Taylor states his conclusion in these words. Socrates "possessed mathematical attainments of an advanced kind, another link with Pythagorean science". But it would not seem that the evidence put forward really justifies this conclusion. All the points that Prof. Taylor mentions are (1) the measuring of the flea's jump, (2) the use in the *Clouds* of so-called technical terms *χωρίον* and *παπατέταται*, (3) the use of compasses and *διαγράμματα* in the abduction of the cloak, and (4) the comparison with Thales. Surely this is very weak evidence from which to conclude that Socrates possessed mathematical attainments of an advanced kind, even when one remembers that it is taken from a caricature. But let us examine it a little more closely. With regard to the misuse of 'technical' terms, not everybody will be inclined to agree with Prof. Taylor. I imagine, in holding that τὸ *χωρίον* is "misused here (l. 52) for comic effect". It is a sufficiently common word outside Pythagorean geometry, though it may be granted that it is inaccurate here to use it for the linear distance of the flea's jump. But to say that in l. 213 *παπατέταται* is also meant to suggest a technical term is surely absurd. On the one hand it is by no means certain that *παπατείνειν* was a regular technical term. Prof. Taylor refers to the well-known passage in the *Meno*, where Thompson's note runs: "The only other place in any classical author where *παπατείνειν* occurs as a geometrical term is in *Republic*, 527 A". (There it is put into the mouths of utilitarian geometers along with *τετραγωνίζειν* and *προστίθειν*.) As Prof. Taylor himself points out (p. 156 n.), the technical word in *Euclid* for the meaning required is *παραβάλλειν*. But one can easily see that *παπατείνειν* might be naturally used for the application of a rectangle to a straight line without becoming a technical term. Secondly, there are numerous parallel instances of the use of the word in geographical descriptions, as it is here used of Euboea. (Compare Herodotus, II., 8, iv., 38; Thucydides, iv., 8.) Indeed one of the meanings given in Liddell and Scott is "to stretch out, lie beside, before, or along, of a wall, line of country, etc." It seems entirely unwarranted, therefore, to look for an allusion to the very rare mathematical sense when this perfectly natural one is to hand. If any motive for the use of the word is to be sought, it would seem that is rather to be found in the pun which follows—the 'double entendre' of "stretching out".

At the risk of being considered meticulous, I must also refer to the comparison with Thales, on which Prof. Taylor seems to lay some stress. One can imagine him inquiring, "Why Thales? Why not Hippias (*e.g.*), or some more distinguished mathematician? Ah yes! Thales was the great *practical* mathematician, interested in the application of mathematical results to everyday life. Hence he is selected here to show that Socrates was interested in mathematics in the same sort of way. How admirably do these small details confirm the account of Xenophon (*Memorabilia*, iv., 7)! How unjustly has he been suspected!" Thus the imaginary Prof. Taylor arguing for the veracity of Xenophon. For it is true, of course, that Thales both cared and knew very little about the theory of mathematics, and, as Burnet says in his account of him, only made easy application of the Egyptian instrument called the 'sext'. So, too, Prof. Taylor says that "the point of the comparison is of course that Thales was credited with a number of remarkable applications of mathematics to problems of practical life". The proper conclusion is, therefore, that Socrates was also interested in mathematics in so far as they could be applied practically, and is not that precisely what Xenophon tells us—that Socrates was interested in geometry so far as it enabled a man to measure his land more accurately, in arithmetic so far as it helped in the keeping of accounts, and in astronomy so far as it was useful to the pilot? That account agrees admirably with the *Clouds*, and there is, moreover, a remarkable verbal coincidence of the kind in which Prof. Taylor delights. In ll. 201-2 of the *Clouds* we are told that Strepsiades, pointing to some object, asks, "What's that there?" "Geometry" is the answer. "What's the good of it?" "To measure land" (*γῆν ἀναμετρεῖσθαι*)—precisely the object which Xenophon mentions as approved by Socrates. The result seems clear therefore that geometry as taught in the *φροντιστήριον* had a practical end. Even the measuring of the flea's jump suggests this. But this result by no means warrants the conclusion that Socrates possessed "mathematical attainments of an *advanced kind*". It will not in any sense prove what Prof. Taylor is anxious to prove, that the historical Socrates looked upon mathematics in the same way (*e.g.*) as the Socrates of *Republic VII*. It does not in the least support the position laid down in the 'Foreword' to *Varia Socratica* that "the stress laid on the *μαθήματα* as a vehicle of spiritual purification . . . belonged in very truth, as their common faith, to the Pythagorean or semi-Pythagorean

gorean group, whose central figure twice over receives something like formal canonisation from the head of the Academy". In short, the caricature in the *Clouds* does not at all suggest that Socrates was interested in the mathematical sciences as sciences. But the Platonic Socrates certainly was. There is therefore a discrepancy here which needs further explanation. Moreover, just as we have seen to be the case with physics, so with mathematics Xenophon's account seems to be true, namely, that in his maturity Socrates took no interest in mathematics except in so far as they could be practically applied, but yet he had at one time learned the higher mathematics, so that he could be described as 'not ignorant of them' (*Mem.*, iv., 7, 3). Either of these facts would justify the place of geometry in the Phrontisterion in the *Clouds*' caricature. But it no more follows that Socrates retained an interest in mathematics, and insisted on their supreme value as propædæutic studies, than that a man who has once learned Greek, and subsequently become a member of the Stock Exchange, might be justly described as an enthusiastic Greek scholar. His attitude towards Greek studies might well be equally utilitarian as Socrates' towards mathematics.

It remains to add a few remarks about the general nature of the *φροντιστήριον* with the object of showing that it was not regarded by Aristophanes as a home of speculation but rather as a place of training for practical life. In this regard it may be worth while to point out that the nickname *φροντιστής* does not necessarily or even naturally connote "speculative philosopher". It might very well be applied to the Socrates of the Platonic Apology, for example, with his perpetual interrogations. The name taken by itself would certainly not lead us to imagine that Socrates was notorious for his interest in mathematics and physics. But I prefer rather to rely on the express evidence to be found in the *Clouds* itself that the aim of the education there caricatured is a practical one. This point needs no argument to support it against Prof. Taylor—for he himself recognises it (p. 170)—but it does require further emphasis and illustration. Moreover, his recognition of it is marred by its association with the 'fanciful' theory that the education in the *φροντιστήριον* is a caricature of that in the *Republic*. If that were true, of course, the end might very well be 'practical' while the means were the speculative sciences. But I trust sufficient has already been said to show that such a suggestion is worthless. The truth seems rather to be that in the *φροντιστήριον* the education itself, as well as the end it helped to realise, were both practical. And I would venture to main-

tain that there is every probability that such was the method of the historic Socrates. Prof. Taylor in one passage (p. 171 note) refers to *Memorabilia*, iii., 6, and says that it gives the impression that "Xenophon is trying to expound the theory of the πολιτικὴ τέχνη, but has understood it so imperfectly as to confound the 'art royal' with mere knowledge of political statistics". I submit that that is not Xenophon's blunder but the true nature of the Socratic teaching. The sort of knowledge necessary for a statesman in Socrates' opinion was not knowledge of geometry and astronomy, but rather knowledge of the size of the army, the resources of the country, and the regulation of the food supply, etc. One may appeal for verification to the *Republic*, Book IV. No demonstration is needed that σοφία, the virtue of the rulers there, is pre-eminently a 'practical' virtue. It is not at all the 'speculative' virtue which is afterwards assigned to the philosopher kings. Perhaps it would not be very far wide of the mark to suggest that the historical Socrates is well represented in Books II.-IV. of the *Republic*, while Plato's own views are to be found in Books VI.-VII. Prof. Taylor would doubtless object to such a separation between the two parts of the *Republic* (p. 171 note), and the question cannot be argued here. But it may be worth recalling the fact that according to Lutoslawski¹ stylistic evidence would place Books V.-VII. later than Books II.-IV. I seem to remember, too, that there is high authority² for the statement that stylistic evidence is the only trustworthy basis of inference. However, that is a digression. The main suggestion is that if Socrates wished to train men for public affairs, he would have trained them to study 'political statistics' and so forth. And, as has been said, Prof. Taylor recognises that "the end to be achieved by a course in the φροντιστήριον, as we are expressly told by the *Clouds* themselves, is efficiency as a director of public affairs".

Let us illustrate this point further. Strepsiades urges Pheidippides to join the school, "if he cares for his father's bread and butter" (l. 105).³ In answer to Pheidippides' question, "What can they teach," he answers:—

"It's said they keep in there two Arguments,
The Better as they call it and the Worse,
And of these two the Worse, as rumour goes,
Can always win however bad its plea.
If you will learn the Unjust Argument
Of all the debts which you have brought on me
I needn't ever pay a single penny" (ll. 112 sq.).

¹ *Origin and Growth of Plato's Logic*, pp. 322-4.

² *MIND*, N.S., xii., p. 20, Taylor, "On the first part of Plato's *Parmenides*".

³ I use a translation by Messrs. Godley and Bailey.

Or let us go to the meeting of Socrates and Strepsiades (Il. 239 sq.). Socrates asks, "Why have you come?" Strepsiades answers, "I want to *learn to speak*. For usurers and creditors have plundered me and threaten to convict me." That at any rate is what the 'common herd' think of the *φροντιστήριον*, that they can learn to speak there, and ex hypothesi the dullest peasant knows all about the teaching of the 'Reflectory'. Moreover, Socrates at the 'initiation' promises that Strepsiades will be "as sounding brass, the flower of speakers," and the *Clouds* urge him to take as his ideal "what befits a man of parts in debate to be victorious and in all the statesmen's arts" (Il. 417-19). Strepsiades replies that all he wants is "only just to be ten miles the smartest speaker in the land" (l. 430). Then we have the *Clouds*' promise—as quoted by Prof. Taylor—"From this day we here decree, no one else shall carry resolutions more successfully". More might be quoted but perhaps enough has been said to show that men would go to the 'Reflectory' not to learn mathematics or physics but rather to be trained as successful politicians. They would learn the arts of argument and clever speaking—just as Socrates himself was unrivalled in 'dialectical' argument and cross-examination.

It is exceedingly hard to see, therefore—and this is the summary of the present paper—in what way the caricature in the *Clouds* contradicts the picture of Socrates in Xenophon's *Memorabilia*.¹ In both cases Socrates' chief interest is in the 'practical' sciences of Ethics and Politics. In both it is made clear that he was acquainted with physics and mathematics, and had at one time studied them. The *Memorabilia*, agreeing here with Aristotle, as well as with the *Apology* and *Phaedo*, adds that Socrates abandoned the more speculative sciences in favour of the more practical. Therefore what is chiefly characteristic of Socrates is this practical interest. The only further information that we may hope to get from the *Clouds* is as to the exact time at which Socrates abandoned his physical studies. (I say nothing of mathematics, as he may have retained an interest in their *practical* applications, but not the interest spoken of in *Republic VII.* as supreme.) As the *Clouds* was produced in 423, it may be assumed that Socrates could still plausibly be represented as interested in science at that time—*i.e.*, when he was over forty. That is the very most which Prof. Taylor can claim, and even for that there is little foundation.

¹ The *Clouds* do not of course furnish any direct evidence for the statement that Socrates taught a theory of ideas. This is an exceedingly important omission.

We cannot expect that Aristophanes, for the purpose of caricature, would be too careful to keep up with the stages of Socrates' mental development. It would be enough for him if Socrates had been at *one* time a student of physics. That would be quite sufficient basis for the little stress laid on physical science in the *Clouds*. A caricature is not wholly false, but neither is it wholly true. And a comic poet would not scruple to confound the Socrates of five or ten years before with the Socrates of the day. We may justly say that thirty years of Socrates' life are left after the *Clouds*, in which he might develop his own peculiar interest in Ethics and Politics. Even from the *Clouds* themselves evidence can be gathered that Aristophanes was aware of this change in the attitude of Socrates. Prof. Taylor says nothing, except in his Postscript, about the two editions of the *Clouds*. But it appears to be generally accepted among Aristophanic scholars that the discussions between the two 'Reasons' was added in the second edition, and was not present in the acted version. If this be true—and I only accept it on authority—it is of considerable importance to note that Aristophanes, in rewriting the play after its first failure, was careful to emphasise the part played in the *φροντιστήριον* by ethical and political teaching rather than by scientific studies. It would show that he did recognise increasingly the 'practical' nature of the Socratic teaching. Some scholars have gone further, and maintained that many sentences are added throughout the play, illustrating this practical tendency. Although their conclusions seem to be based mainly on mere conjecture, the general point would seem to possess considerable interest for the student of Aristophanes' attitude towards Socrates. Moreover, one must remember in this regard the explicit denial in the *Apology* of the *Clouds*' caricature so far as it suggests scientific interests. Prof. Taylor, after a discussion in his Postscript, concludes that we need not agree with Chiappelei "that Aristophanes, who had originally treated Socrates as a harmless pedant, came afterwards to view him as a moral pest". Perhaps not. But it is surely clear that Aristophanes recognised that there was a moral and political side to Socrates' teaching.

It is sufficient to emphasise this, and at the same time to point out that Prof. Taylor's chapter seems to give an exaggerated account of the speculative elements in the caricature. It is hard to see exactly what he thinks can be proved from the *Clouds*. I have taken as a rough test throughout the question whether the historical Socrates held the doctrines enunciated in the *Republic* VI.-VII. I do not know whether

Prof. Taylor believes that, but I gather that he does. What I wish to maintain, therefore, is that the *Clouds* do not in the least justify that contention, but that, on the other hand, they agree very closely with the testimony of Xenophon, whom Prof. Taylor dismisses with something like contempt. Whether the other chapters of the *Varia Socratica* establish the thesis I have—mistakenly I hope—ascribed to Prof. Taylor, I must leave others to judge. But I will end as I began with the expression of my own opinion, that they do not. Nevertheless, while they may not yet be willing to rewrite the history of Greek philosophy, students of Socrates and Plato will be grateful to Prof. Taylor for much of his evidence.

IV.—NEGATION CONSIDERED AS A STATEMENT OF DIFFERENCE IN IDENTITY.

BY AUGUSTA KLEIN.

WE are all familiar with the Hegelian and post-Hegelian doctrine which treats all predication as the statement of an Identity in Difference. With regard to Affirmation this doctrine has been strikingly illustrated by a theory expressed first by Miss Constance Jones¹ as long ago as 1890, and, a little later, by Prof. Frege.² An affirmative categorical proposition, says Prof. Frege, asserts identity of *Bedeutung* with difference of *Sinn*; and Miss Jones has long maintained that it asserts identity of Application with difference of Intension. But negative predication Miss Jones interprets as an assertion of "difference of Denotation (Otherness) in difference of Intension (Diversity)".³ To this interpretation of Negation I venture to oppose a view which may perhaps be thought to supplement it at a point where it appears to be defective.

The interpretation of negative predication proposed by Miss Jones has this great merit, that it takes Negation seriously and gives it the rightful degree of logical importance. Few things are more striking in the history of Logic than the injustice which has constantly been done to Negation, and the contemptuous treatment which even in present-day textbooks it very commonly receives. The traditional theory of Predicables, for instance, is perfectly content to ignore it altogether. In the original doctrine formulated by Aristotle this omission was natural, and, indeed, inevitable, since, as Dr. Zeller says: "Da er die Copula noch nicht bestimmt vom Prädikat unterscheidet, weiss er auch die richtige Bezie-

¹See *Elements of Logic as a Science of Propositions*, by E. E. Constance Jones (Edinburgh, T. & T. Clark, 1890), Section vi., pp. 46-52; Section xv., pp. 127-129.

²See "Mr. Russell's Objections to Frege's Analysis of Propositions," by E. E. Constance Jones, *MIND*, July, 1910, p. 379, and footnotes 1 and 2. Cf. a more recent article by Miss Jones entitled "A New 'Law of Thought' . . .," *MIND*, Jan., 1911, p. 49.

³*MIND*, Jan., 1911, p. 42.

hung der Negation noch nicht zu finden: er spricht es nirgends aus, dass sie in Wirklichkeit nur der Copula gilt, nur die Verbindung des Subjects mit dem Prädikat, nicht das Subject oder Prädikat selbst verneint . . ."¹ But when we come to the post-Aristotelian Logic² which definitely recognised the Copula as one of the three elements of the Categorical Judgment, and thus was able to place Affirmation and Negation in their proper relation one to the other, then it is strange to find no recognition of the truth that the existing scheme of Predicables held good for affirmative predication only, and that, if the doctrine of Predicables is to be an exposition of Predication in general and not merely of Affirmation, a second scheme, of terms negatively predicable of their subject, is urgently required.

This, of course, is not at all to say that Affirmation and Negation must be put on the same level, as strictly co-ordinate kinds of judgment. On the contrary we may earnestly maintain the rights of Negation and yet at the same time may fully accept a significant saying of Aristotle, who, in comparing affirmative with negative premisses, emphatically declares: *ἡ δὲ καταφατικὴ τῆς ἀποφατικῆς προτέρα καὶ γνωριμωτέρα· διὰ γὰρ τὴν κατάφασιν ἢ ἀπόφασιν γνώριμος, καὶ προτέρα ἢ κατάφασιν, ὥσπερ καὶ τὸ εἶναι τοῦ μὴ εἶναι.*³ We may heartily agree with Dr. Sigwart when he says that "das verneinende Urtheil kann . . . nicht als eine dem positiven Urtheil gleichberechtigte und gleich ursprüngliche Species des Urtheils betrachtet werden,"⁴ and in exalting the status of Affirmation and depressing that of Negation we may go as far as our logical convictions require. We need no more in Logic set Negation on the same level with Affirmation than in ethical or theological speculation we need set Evil on the same level with Good. As, in Ethics, we may hold that moral evil is neither primary nor ultimate, so, as logicians,

¹ *Die Philosophie der Griechen* . . . von Dr. Eduard Zeller, dritte Auflage (Leipzig, 1879), 2ter Theil, 2te Abtheilung, 2te Periode, 3ter Abschn., S. 221. Cf. Dr. Carl Prantl's masterly exposition, *Geschichte der Logik im Abendlande* (Leipzig, 1855), erster Band, 4ter Abschn., SS. 143, 144, 160.

² This phrase is necessarily vague; for the history of the Copula is exceedingly difficult to trace. The first logician who ever gave a clear and consistent account of the Copula as such seems to have been Alexander of Aphrodisias, Scholarch of the Lyceum in the reign of Septimius Severus, about A.D. 200. See Prantl, *ibid.*, 11ter Abschn., SS. 620, 624, especially Ann. 28.

³ *Ar. Anal. Post.*, Book I., chap. 25, p. 86b, 33-36.

⁴ See *Logik*, von Dr. Christoph Sigwart, dritte Auflage (Tübingen, 1904), erster Band, 4ter Abschn., § 20, S. 155. Cf. *The Principles of Logic*, by F. H. Bradley, LL.D. (Kegan Paul, Trench & Co., 1883), Book I., chap. iii., § 2, p. 109.

we may see clearly that Negation arises only and always on a basis of Affirmation, and, further, that even in such relative negation the mind can find no rest, that no sooner have we made a negative predication by asserting a limitation than we find that we have gone on to make a positive judgment by *affirming the limited*. As a speculative Ethic might teach with Saint Augustine that there is no such thing as *mali natura*,¹ that there is in evil neither concreteness nor finality, so we may well believe that Negation, starting always from Affirmation and returning into it again at a further stage of concreteness, is in no sense ultimate, that pure negation is non-existent, and that relative negation is an abstraction made only to be transcended, so that *τὸ Naí* alone is final. All this we may accept, and as many other speculative opinions as we please, and yet see that no doctrine of Predicables is complete that does not present a negative as well as an affirmative scheme of predications. If we would develop the logical intension of a term, we must state not only what our subject is, but also what it is not. It may be quite true that Negation is an abstraction, that logical intension, concretely considered, is always positive, and that negative not only presupposes affirmative predication, but, further, serves only to enable us to re-assert in a concreter sense the predicables of our affirmative scheme; but it is true also that, as it is only through transcending Negation that our abstract affirmations become concrete, so also the investigation of logical intension will be but a formal and profitless exercise unless it is based not only on the consideration of Affirmation but also on the recognition of negative as relatively distinguished from affirmative predication.

Yet we constantly find that logicians are content to construct their theories of Judgment and Proposition on the basis of mere Affirmation, and then, as an afterthought, to give to Negation a separate treatment which in some cases is never brought into systematic relation with the general theory at all. I cannot but think that the Hegelian and post-Hegelian theory of Predication as the statement of an *Identity in Difference*² suffers from this defect. That theory is undoubtedly an admirable expression of at least one aspect of affirmative predication. Every affirmative proposition may (as Hegel says³ of "every judgment") be interpreted as stating

¹ *Civitas Dei*, Book XI., chap. ix.

² See *The Logic of Hegel*, translated by William Wallace, LL.D., 2nd edition (Oxford, Clarendon Press, 1902), chap. viii., § 115, pp. 212-215; chap. ix., §§ 166-171, pp. 297-302. Cf. p. 393 (see also Bradley's *Logic*, Book I., chap. v., § 1. p. 131).

³ *Ibid.*, pp. 298, 302.

an identity of Subject and Predicate, while at the same time it implies their difference. But in negative predication it surely is not so, for here it is the difference that is stated, the identity that is implied.

On the other hand, Miss Jones, who interprets the propositional form *S is not P* as asserting *Difference* (of Denotation) in *Difference* (of Intension) fails, as I venture to think, to do justice to the concrete significance of negative predication. She regards "the Law of Identity" when expressed in the formula "*A is A*" as a "tautology," and assures us that "'mere identity' is our undoing".¹ Yet, if mere identity is meaningless, surely mere difference is equally unintelligible, and it is mere difference that negative predication, in her analysis, undoubtedly seems to express. As the Hegelian doctrine, which treats all predication as an *Identity in Difference*, fails to do justice to the *negative statement* of the predication *S is not P*, so Miss Jones, interpreting Negation as the assertion of a *Difference in Difference*, seems to ignore its *affirmative implication*. To me it seems that Negative Predication should be interpreted as asserting neither a Difference in Difference nor an Identity in Difference, but a *Difference in Identity*.

Nor is the distinction between these last two formulæ—the distinction between Statement and Implication—in any sense frivolous or logically unimportant. Logicians who are superior to such relative distinctions as those between Fact and Judgment, between Judgment and Statement, between that which is and that which is asserted, naturally tend to minimise also the difference between that which is stated and that which is implied; but for those who (like all who belong to that Cambridge School of Logic of which Miss Jones is one of the most distinguished members) resolutely refuse to ignore distinctions which are purposive though they may not be ultimate, emphasising even merely provisional common-sense distinctions and seeking always to find a way in which they may be ultimately not denied but transcended—for them the difference between Statement and Implication is something that cannot be lightly dismissed. If affirmative predication (regarded from the standpoint of an exposition which presents it as analysable into Subject, Predicate and identity copula) may be interpreted as a statement of identity of objective reference implying a partial difference of intension, and if negative predication (regarded as analysable into Subject, Predicate and difference-copula) may be interpreted as

¹ MIND, January, 1911, p. 52.

a statement of difference of objective reference implying a partial identity of intension, then, whatever our theory of Judgment or Proposition may be, we must beware of expressing it in any formula which does not do full justice to both these kinds of predication. To describe predication in general as the statement of an Identity in Difference, I cannot but think is misleading.

The expression *difference-copula* (used as meaning a copula that states a difference while merely implying an identity) will by some readers be thought questionable. It suggests a view which is directly opposed, for instance, to the Sigwartian interpretation of Negation. The truth is that of that method of exposition which, constructing its theory of Judgment upon the consideration of Affirmation alone, treats Negation separately, and only, as it would seem, as an afterthought, and of the disastrous results of that procedure, there is perhaps no more striking example to be found than Dr. Sigwart's in other respects masterly and convincing treatment.¹ In the two long and important chapters which, in the first volume of his *Logic*, he devotes to the study of Categorical Judgment in general—chapter ii. on “Die einfachen Urteile” and chapter iii. on “Die Entstehung der Urteile . . .” *u.s.w.*—he is quite obviously making a study simply and solely of Affirmation. Throughout these eleven powerful sections (§§ 9-19), with their elaborate analysis and classification of Judgments, we read ever and always of the “In-Einssetzung” of Subject and Predicate, of their “Verknüpfung zur Einheit,” of their “Verbindung,” their “Einssein,” their “Uebereinstimmung”; and amid all the wealth of apt illustrations wherewith these eighty-eight closely printed pages are enriched and elucidated there is not a single instance of a negative proposition. Only when the general exposition of (Categorical) Judgment, its psychological and logical analysis, and the classification of its various species are over and done with do we at length come (in chapter iv.) to a separate treatment of “Verneinung” with which the general theory of the two preceding chapters would seem to have very little to do.

And this is not merely a question of literary arrangement or of a convenient order of exposition. Such an arrangement and such a method of exposition as this is a procedure which makes the treatment of Negation inevitably and of necessity inadequate. By no other method could Dr. Sigwart have arrived, for instance, at his strange conviction with regard

¹ *Logik*, erster Band, Abschn. 2-4, §§ 9-25, SS. 66-210.

to the function of the Copula in the Negative Judgment.¹ "Die Copula," he writes, "ist nicht der Träger, sondern das Object der Verneinung; es gibt keine verneinende, sondern nur eine verneinte, Copula."² Nor can he possibly write otherwise; for, having through a careful study of the Copula as used in Affirmation constructed a theory of the Copula, of Judgment in general, as "den Ausdruck desjenigen Denkacts, durch welchen im Urtheil ein Prädikat auf ein Subject als mit ihm congruierend, als Eigenschaft oder Tätigkeit bezogen wird," and having added the inevitable corollary: "so ist damit eine Einssetzung ausgesprochen; und es kann keine Art der Einssetzung sein, Subject und Prädicat auseinanderzuhalten und es gar nicht zur Einheit kommen lassen," he cannot but end by triumphantly dismissing the "verneinende Copula" with the final and, superficially considered, unanswerable declaration that "ein Band, welches trennt, ist ein Unsinn".³ Even this last statement is, of course, contestable. Not only is the metaphor in any case of too external and mechanical a kind to illustrate that which Dr. Boyce Gibson has aptly called "the systematic intimacy of subject and predicate within a proposition";⁴ it is, further, true that every "connexion" does implicitly "divide" in the sense of emphasising the distinction of the things or elements connected. But this is not the point I wish to make. Rather I would insist that the copula in a negative judgment may be interpreted not as implying but as directly expressing a difference of objective reference within the identity which constitutes its implication.

For what intelligible meaning can we give, in this connexion, to the phrase "verneinte Copula"? If that which a negative judgment negates is its own copula, or rather, perhaps, the copula of that affirmative (or, as Dr. Sigwart prefers to call it, "positive")⁵ "*vollzogenes oder versuchtes Urtheil*"⁶ which every negative judgment presupposes, then, since in every categorical judgment "das Subject dasjenige ist, wovon etwas ausgesagt wird,"⁷ this copula is now the subject of our negative judgment. And its present copula,

¹ Cf. *The Problem of Logic*, by W. R. Boyce Gibson, M.A., D.Sc. (A. & C. Black, 1908), chap. xii., *ad fin.*, p. 126. This passage, however, sets forth a doctrine, concerning the identity expressed by negative predication, which, in striking corroboration of the illustration with which the paragraph ends, I am now unable to accept.

² *Logik*, erster Band, 4ter Abschn., § 20, 4, S. 159.

³ *Ibid.*, SS. 158, 159.

⁴ *The Problem of Logic*, l.c.

⁵ *Logik*, l.c., § 20, 1, S. 156.

⁶ *Ibid.*, S. 155.

⁷ *Ibid.*, erster Abschn., § 5, S. 27.

we must remember, is not "verneinende" but "verneinte," so that *this* "verneinte Copula" must in its turn be promoted to the place of Subject, and so on *ad infinitum*. Dr. Sigwart himself insists that "die Verneinung ist also unmittelbar und direct ein Urtheil über ein versuchtes oder vollzogenes positives Urtheil, erst indirect ein Urtheil über das Subject dieses Urtheils,"¹ and seems to regard with indifference, or at least with perfect equanimity, the infinite regress in which he is thus involved.² Nor does he give us any hint of explanation concerning the universally prevalent grammatical form of our negative propositions. By leading us to the conclusion that in negative predication the grammatical subject never is or expresses the logical subject, he obliges us to infer that all our negative statements, instead of expressing our judgments, entirely misrepresent them. Whenever we make a statement of the form *S is not P*, though we seem to be talking about *S*, our grammatical subject *S* is not that about which we mean to state anything at all. The universal form of negative proposition entirely belies its meaning. But, if we do not mean to state anything about *S*, why do we do so, or at least pretend that this is what we are doing? Why should we spend our lives in saying one thing and meaning another?³

That the negative categorical states a difference of objective reference is a point upon which we need no longer dwell; but the implied identity is less obvious, and is an element to which logicians have hardly yet done justice. For this *implication* of Identity is something more than that *presupposition* of Affirmation upon which many logical writers have insisted. Not only is it true (to quote again Dr. Sigwart's statement) that every negative judgment presupposes "ein versuchtes oder vollzogenes positives Urtheil";⁴ not only may it be undeniable that, as Dr. Bradley tells us, "negation presupposes a positive ground,"⁵ and that "The basis of negation is really the assertion of a *quality that excludes*";⁶ but further, beside these *presuppositions* of the Negative Judgment there is in the negative predication itself an implication of identity between Subject and Predi-

¹ *Logik*, I.c., § 20, 4, S. 159.

² *Ibid.*, Anm., S. 166.

³ I venture to think that, *mutatis mutandis*, this crude, common-sense argument is relevant also to Dr. Bradley's contemptuous treatment of the "grammatical subject," of affirmative as well as negative predication, in the first chapter of *The Principles of Logic*. See especially § 16 (b), p. 23.

⁴ *Logik*, I.c., § 20, 4, S. 159. Cf. SS. 155, 156.

⁵ *The Principles of Logic*, Book I., ch. iii., § 2, p. 109.

⁶ *Ibid.*, § 6, p. 112.

cate; for it is implied in the relevancy and therefore in the logical meaning of a negative proposition that its terms are so related one to the other as to be partially *identical in intension*.

By relevancy I here mean, of course, that relevancy to purpose or interest which, long ago recognised by Plato¹ and in our own times emphasised by Dr. Stout in Psychology² and by Pragmatist thinkers in everything else, has been presented by many modern writers (for instance by Dr. Bergmann,³ Dr. Bosanquet,⁴ and Dr. Boyce Gibson⁵) as of paramount importance in Logic—Dr. Bosanquet especially having admirably set forth the determining influence of Interest on Judgment in general and in particular upon Negation.⁶ This is a large subject, and we are here concerned only with one small part of it, with the truth that it is relevancy to purpose in Negation which secures that implication of partial identity of intension between Subject and Predicate without which the asserted difference would have no meaning, while irrelevant negations entirely fail to do so.

When Dr. Bradley for our spiritual consolation assures us that "The soul is not an elephant, nor a ship in full sail, nor a colour, nor a fire-shovel,"⁷ why is it that we do not feel consoled? Because affirmation alone is ultimately consolatory, and *these* negations do not lead on to affirmations. They are not such as, when confronted with the attributes affirmatively predicable of the subject-term, are found to present denials that can be transcended. They do not express such limitations of meaning as would enable us to re-assert in a concreter sense the affirmatively predicable attributes. And the reason why they do not do this is

¹ Rep. x., chap. iv. (Teubner Text), 601 D. See "The Cardinal Principle of Idealism," by Ralph Barton Perry (Mind, July, 1910, p. 323).

² See *Analytic Psychology*, by G. F. Stout. LL.D. (London, 1896), Book II., chap. iii., § 1, pp. 225-228; § 2, p. 232. See also *A Manual of Psychology*, by the same author, Second Edition (London, 1901), Book I., chap. ii., p. 81; Book IV., chap. ii., pp. 440, 441; Book IV., chap. iii., pp. 456, 457. Also *The Groundwork of Psychology*, Second Impression (London, 1903), chap. iii., p. 20; chap. vi., pp. 55, 56.

³ See *Allgemeine Logik*, von Dr. J. Bergmann (Berlin, 1879, erster Theil; *Reine Logik*, erster Abschn., § 6. 5. S. 47.

⁴ See *Logic, or The Morphology of Knowledge*, by Bernard Bosanquet, LL.D. (Oxford, 1888), vol. i. Intr., 5, vi., p. 23. Cf. *The Essentials of Logic*, by the same author (London, 1903), Lecture ii., p. 30.

⁵ See *The Problem of Logic*, Pref., p. ix.

⁶ *Logic* . . . vol. i., Book I., chap. vii., pp. 295, 300-302.

⁷ *The Principles of Logic*, Book I., chap. iii., § 13, p. 116. Dr. Bradley of course gives these examples of negation as "intentionally absurd suggestions" (*ibid.*).

that they are not (in relation to any spiritual or psychological interest) sufficiently closely related to them in meaning. It is the relevantly close intensive relation of Subject and Predicate in negative predication—in other words, it is the relevantly close relation between terms affirmatively and terms negatively predicable of the Subject—which alone can give significance to Negation.

We have then to bear in mind that negatively predicable attributes can be admitted to the formulation of the intension¹ of a subject-term only so far as they are able to develop by limitation that term's affirmatively asserted predicates. The task that lies before us seems to be this,—to reconsider our schemes of affirmative predication (whatever they may be) in order to ascertain how they may be limited and by limitation developed, remembering always that a desire for formal symmetry is apt to mislead, and that we have to inquire not what negative predicables would look well as constituting negative schemes that should neatly correspond to our affirmative schemes of predicables, but what, in limiting and so completing a term's intension, are the kinds of term that we actually do negatively predicate of our subject. Only by some such procedure as this can we hope to achieve an adequately systematic logical treatment of Negation.

¹ By "intension" I do not here mean the intensive meaning of the subject *as used in the predications* which assert of it the several attributes. I mean that full logical intension which is *developed* by successive acts of predication, the intension which is not fully formulated until all the relevant predications have been made.

V.—DISCUSSIONS.

SELF-CONSCIOUSNESS AND CONSCIOUSNESS OF SELF.

In the present discussion we shall first attempt to set forth the difference between self-consciousness and the consciousness of self. Then we shall emphasise the true relation between the two terms. And, finally, we shall go on to point out the bearing of these previous considerations as regards the problem of the nature of the Absolute.

We consider first the difference between self-consciousness and consciousness of self. The meaning of the latter term, one would think, is not difficult to fix. By consciousness of self we understand that experience of contrast between the self and something other than the self, in which the disparateness between the self and its Other is emphasised. In this experience the self, as a particular group or centre of interests, stands opposed by an Other (whatever that Other may be) which is regarded as more or less foreign to that centre of interests with which the self of the moment is identified. In a word, consciousness of self is the feeling that arises as a result of the isolation of the self within its environment; it is the contrast-effect between the self and the not-self.

That such is the essence of the experience may be made evident by illustration. Since the experience is most clearly manifest in novel situations, we look among the emotions for typical illustrations. Take the case of the embarrassed lad making his first appearance in the *rôle* of orator. Here we have consciousness of self in a very intense form; and the greater the embarrassment, the more intense is the consciousness of self. Now the very centre and soul of this experience is the lad's awareness of his particular self encompassed by a disconcerting not-self, an Other that is (from his point of view) foreign and hostile to his individuality. The intense feeling that between himself and his audience a great gulf is fixed constitutes his embarrassment. And this contrast-effect is what we mean when we say that the lad is conscious of self. The same fact is illustrated in grief. The heart bowed down by weight of woe is conscious of self. Here again the essence of the experience is the contrast between the self and its Other—in this case, the self that is bereaved and the object of affection that is separated from it. For grief is just the intensified feeling that the self is incomplete and fragmentary apart from its Other which now lies beyond it. Con-

sciousness of self also manifests itself as fear. And here, once more, the emphasis is thrown upon the self as opposed by an Other, whether real or imaginary, which is looked upon as hostile; the object of dread brings home to the individual a sense of his incapacity to cope with the exigencies of the situation. The wicked fleeth when no man pursueth because the self of wicked purposes is out of harmony with its environment. Other illustrations, within the realm of emotions as well as outside it, suggest themselves; but they need not be mentioned in detail. They all point to the same lesson, namely, that consciousness of self, as was said above, is essentially an other-regarding experience, in which the contrast between the self and its Other is of such a nature as to throw the emphasis upon the disparateness between the two. It is just that limitation of the self by its Other, the presence of which is a more or less disconcerting fact.

Self-consciousness, however, is a very different category. When we think of self-consciousness we have in mind the intrinsic nature of the stream of consciousness itself rather than its relation to something more or less foreign to it. Here we are dealing with, not the contrast-effect between the self and its Other, but rather that totality of experience that may or may not be thought of as thus limited. Self-consciousness is an inward-looking category that refers to the continuity of the processes with which, as a whole, we identify the self. It is what Kant would call the 'transcendental unity of apperception,' in terms of which the unitary nature of experience is expressed.

Here, again, illustration will help us. The self-consciousness of our young orator is that whole of experience which he calls himself and which he is so painfully aware is different from the audience out there before him. The self-consciousness of the sorrowing one is that totality of feeling which reaches so earnestly and yet so vainly beyond itself for its completion. Finally, the self-consciousness of the wicked one is that unity of conscious processes, vicious though those processes surely are, which he strives to preserve by flight. Self-consciousness is, thus, the stream of consciousness viewed as unitary, coherent, and continuous.

The difference between self-consciousness and consciousness of self, then, seems to be pretty clearly defined. Whereas consciousness of self has to do primarily with the relation which the stream of consciousness as a whole bears to something more or less clearly differentiated from it, self-consciousness refers to the relation that exists among the several constituent processes within the stream of consciousness. By my self-consciousness I mean that unitary experience which, as a totality, I call myself; consciousness of self, on the other hand, signifies that particular experience of contrast between this totality of experience which I call myself and an Other regarded as foreign and external to this totality.

Having defined the difference between these two categories, let

us now pass on to ask concerning their relation to each other. Specifically stated, our question is this: Is consciousness of self essential to self-consciousness, or may the latter exist apart from the former? The answer to this question which we shall undertake to establish is that consciousness of self (*a*) is not essential to self-consciousness, but (*b*) is rather incompatible with it. The two may exist together; but where consciousness of self is, there is not to be found the truest self-consciousness. It now remains to set forth the reasons for this answer.

(*a*) In support of the thesis that consciousness of self is not essential to self-consciousness, the following suggestions may be presented. In the first place, the emergence of self-consciousness does not presuppose consciousness of self as its condition. The assumption of a pre-existent feeling of opposition or contrast between the self and its Other, for the purpose of accounting for the feeling of unity within experience, seems arbitrary and unjustifiable. It is arbitrary, because no valid reason can be advanced in favour of it; it is unjustifiable, because, as we shall see in some detail below, it flies in the face of the facts of experience. But, in the second place, even if we agree to assume, arbitrarily and unjustifiably, that consciousness of self is a necessary presupposition of self-consciousness, we discover that our assumption is wholly without value. For when we have made the assumption, we are utterly unable to explain how self-consciousness grows out of consciousness of self, to show how the feeling of unity within experience arises out of this experience of contrast that we have assumed as its source. Both the necessity of the assumption that consciousness of self is logically prior to self-consciousness and the usefulness of the assumption when once it is made seem more than questionable.

In point of fact, self-consciousness is logically prior to consciousness of self. And here we strike the root of the whole matter. It seems clear that the self must exist before it can be contrasted with an Other. But the self exists only in so far as experience is a totality; unless the stream of processes be unitary, the self exists in no intelligible sense. Hence self-consciousness is essential to the contrast-effect; without self-consciousness, as Kant has unmistakably pointed out, conscious experience could be nothing more than a meaningless and lawless chaos, and could only metaphorically stand in contrast with anything else. Therefore, so far from its being true that self-consciousness presupposes consciousness of self, it seems indubitable that consciousness of self is theoretically impossible apart from self-consciousness. The contrast-effect between the self and its Other, with which we have identified consciousness of self, thus falls within the larger self-consciousness; unless the latter is presupposed, the former is absurd because self-contradictory. And we are now in a position to see why we were unable above either to discover any justification for the assumption that consciousness of self is a necessary presupposition of self-con-

sciousness, or to reap any benefit from the assumption when it is made. In making such an assumption we are simply trying to explain the totality of experience in terms of one incidental aspect of it.

(b) Not only must we say that consciousness of self is not the logical presupposition of self-consciousness, but that rather the contrary is true. Our analysis forces us to go farther. We must add that consciousness of self is in a very important sense incompatible with self-consciousness. Of course, the two are not contradictories: they may exist together. Wherever we find consciousness of self, there we also find self-consciousness; for the former, as we have indicated, cannot exist without the latter. But it remains true, nevertheless, that consciousness of self hinders self-consciousness. In so far as consciousness of self exists self-consciousness is not at its best. The truest self-consciousness is that in which there is the least degree of consciousness of self: self-consciousness is most intense when consciousness of self is at a minimum or is obliterated entirely. In this statement we are simply repeating a commonplace of everyday observation and a truism of ethics. It is only in the pre-occupied, self-forgetful individual that we expect to discover the expression of a genuine self; a man most truly is what he is in the dark. And he who sinks himself most deeply in the effort to obtain the goal of his aspirations, whatever ethical colouring those aspirations may have, is he whose selfhood we do not stop to question: it is the individual who is conscious of self concerning whose characteristics doubts inevitably arise. Truly, self-realisation is self-forgetfulness, and only he who loses his life shall find it. As the contrast between the self and its Other is overcome, as consciousness of self is eliminated from experience, self-consciousness is enlarged and intensified. This is the ineradicable truth in the ethical doctrine of self-abnegation.

Illustration of this truth is not difficult. Recall the case of our lad with oratorical aspirations. If you think of him as intent upon mastering his speech, you think of him as genuinely self-conscious; to the extent of his ability the totality of his mental processes is focussed about one purpose. Here, manifestly, consciousness of self would be a hindrance. For in so far as he is contrasting himself with something else—with his companions at play, with himself of an hour ago as he was busy with other things, and so forth—he is less able to attain that unity of purpose in which his real self of the moment finds its manifestation. And when the hour arrives for the delivery of his speech, consciousness of self, which is the predominant part of his experience at the time, all but empties his self-consciousness of content and turns expected triumph into dismal and humiliating defeat; the real self of the hour is completely overthrown. Contrast with our lad the mature orator, trained in the art of swaying multitudes. If the orator is affected with an over-estimation of his abilities, his powers are correspondingly

limited; for consciousness of self, though perhaps not so painfully evident to himself and others as it is in the case of the lad, is nevertheless present in sufficient degree to interfere perceptibly with that concentration of interests in which alone real self-consciousness abides. But if the orator submerges himself in his theme, if consciousness of self is eliminated and self and Other blend, then his power over his hearers is limited only by his ability to give birth and expression to thought; his self-consciousness quivers with vitality, and its vitalising agency kindles others of its kind. In the case of the embarrassed lad, incapable of uttering a single coherent sentence, consciousness of self is at a maximum and self-consciousness is at a minimum; in the case of the orator, experienced in his art but conceited withal, consciousness of self is reduced in intensity and self-consciousness is correspondingly intensified; finally, in the case of the orator who loses self in its object consciousness of self is at a minimum and self-consciousness, accordingly, at a maximum. Thus, we seem compelled to say, approximation towards true self-consciousness is concomitant with the progressive elimination of consciousness of self from experience.

We have said above that the contrast between the self and its Other is the essence of consciousness of self. Now it is true that self-consciousness also involves an Other, apart from which it is purely an abstraction. But this is no reason why consciousness of self and self-consciousness should be confused. On the contrary, it is here that their fundamental difference lies. The Other of self-consciousness is the entire content of consciousness; indeed, self-consciousness is just that content unified. But the Other in consciousness of self refers only to a small part of the full content of experience; the biggest part of the content is that with which the self is identified and which is contrasted with the Other. The Other of self-consciousness comprehends both extremes of the opposition with which we identify the experience of consciousness of self, the Other in the latter experience being only one of the extremes. Again, the Other in self-consciousness is the very breath of life to the experience, while the Other in consciousness of self is always regarded as that in which the self finds an obstacle of some sort. The Other in self-consciousness is, in a very important sense, identical with the self; but the very essence of consciousness of self consists in the opposition between the self and its foreign Other.

Our conclusions, then, are these. Self-consciousness is the comprehensive experience of which consciousness of self is a contingent characteristic. Whether or not one is conscious of self depends upon accidental circumstances of environment and training; whether or not one is self-conscious depends upon one's capacity for a unitary experience. That one should be conscious of self is entirely incidental to one's career; that one should be self-conscious is absolutely necessary to one's development as a

rational creature. It may be that consciousness of self is a necessary stage in the expansion and growth of human self-consciousness, but it certainly seems contrary to sound logic to say that the former is a necessary presupposition of the latter. At any rate, the lesson of experience seems to be that intensification of self-consciousness runs parallel with elimination of consciousness of self.

This discussion may be brought to an end by indicating briefly what are its implications. This can best be done in an application of our results to the problem of the nature of the Absolute.

Of course, it will be understood that we are not here interested in proving that ultimate reality assumes the form of an absolute Experience. Our undertaking is a less ambitious one. We are simply interested in determining whether or not the category of self-consciousness may legitimately be predicated of reality, granting that our metaphysical investigations force us to the doctrine of an Absolute. For the sake of the argument, we assume that we are believers in the hypothesis of the Absolute: can we predicate self-consciousness of the Absolute? This is the question which, in the light of the preceding discussion, we are to answer.

Idealists of a certain type, who uphold the doctrine of the Absolute, insist that the category of self-consciousness here breaks down. The Absolute cannot be self-conscious, they argue. And the reason they give for such a position is that in the experience of the Absolute there can be no opposition between the self and not-self, upon which opposition self-consciousness depends. The Absolute has no Other opposed to itself, and therefore the contrast-effect between itself and its Other is lacking; but apart from this contrast-effect self-consciousness is impossible. As an example of this sort of reasoning we may quote the following from Prof. Taylor's *Elements of Metaphysics*: "An experience that contains no discordant elements, in their character as unresolved discords, is not characterised by the contrast-effect which is the foundation of selfhood. An experience which contains the whole of Reality as a perfectly harmonious whole can apprehend nothing as outside or opposed to itself, and for that very reason cannot be qualified by what we know as the sense of self" (p. 344). Put directly, the argument here amounts to this: contrast-effect between the self and its Other is essential to the sense of self; in the experience of the Absolute such a contrast-effect is, by hypothesis, impossible; therefore selfhood cannot be predicated of the Absolute.

If the conclusions of the present discussion are correct, this argument is vicious. The fallacy involved in the argument as stated above is the fallacy of four terms. The major term changes its meaning from its premise to its appearance in the conclusion. All that the argument really proves is that the 'sense of self' is lacking in the Absolute; but the sense of self cannot be identified with selfhood. Prof. Taylor might object that the sense of self,

this feeling of opposition, is essential to selfhood. But this is not self-evident, and so must be argued; certainly it cannot be assumed as the basis of the argument unless it itself is clearly established. And, so far as Prof. Taylor's argument is concerned, it does not seem to be established. A few pages preceding the above quotation he does point out that awareness of self as opposed to something else is possible only where this contrast-effect is experienced. But this does not go to the root of the problem, which is, as I understand it, the logical one of the *nature of the self*, and not the psychological one of the *origin and development of the awareness of self* as it may be contrasted with something else. In a word, the difficulty in the argument is the identification of what we have seen above to be distinct, namely, consciousness of self and self-consciousness. We must agree with Prof. Taylor that "the self implies, and has no existence apart from, a not-self"; and we also agree that "it is only in contrast with the not-self that it is aware of itself as a self" (p. 336). And we must agree, further, that such a contrast is impossible in the experience of the Absolute. But admitting so much, we are not reduced to the position that selfhood, or self-consciousness, cannot be predicated of the Absolute. Our conclusion would be simply that the Absolute, as a Self, is impossible apart from its relation to an Other; and that between itself and its Other there is no contrast or opposition.

But, one objects, could the Absolute possess an Other (as it unquestionably must if it is self-conscious) and yet at the same time not oppose itself to this Other? Could the Other be there without the contrast-effect being there? And if the contrast-effect is there, would not the Absolute thereby be necessarily limited? This objection indicates the crux of the whole matter. In order to settle the point, we must ask whether it is characteristic of self-consciousness thus abstractly to oppose the self and the not-self. The analysis which we have above undertaken seems unmistakably to indicate that in true self-consciousness this abstract opposition between self and Other is lacking; the more significant the self-consciousness, the less the contrast-effect. The truly self-conscious individual is he in whose experience, full and rich though it be, there is the least awareness of self as contrasted with something else. In other words, self-consciousness, though it unquestionably implies an Other, looks upon that Other as its own very self, bone of its bone, and flesh of its flesh; opposition between the two is a hindrance, not a help.¹

Our conclusion, then, is that self-consciousness is completely realised only in the experience of the Absolute. So far from its being true that the category is not applicable to the Absolute, we are compelled to say that it is only in the Absolute that the cate-

¹ In connexion with this point I may be permitted to call attention to what I have said elsewhere about it. See *Thought and Reality in Hegel's System*, chap. v., especially pp. 138 ff.

gory is fully and completely expressed. For it is only the experience of the Absolute in which there is no unresolvable element, in which the self and its Other are wholly unified (*but not identified*), and from which all alienation has disappeared. In human experience self-consciousness is being progressively realised as individuality is developed and intensified: only in the experience of the Absolute, if such experience there be, does the category find its full fruition.

G. W. CUNNINGHAM.

TRUTH AS VALUE AND THE VALUE OF TRUTH.

THE substance of Mr. Quick's article on "The Humanist Theory of Value," in No. 74 of this journal, is to maintain against Pragmatism the proposition, that "To define truth as value is to destroy the value of truth". To be more specific, Mr. Quick's proposition is, "Many of our beliefs only have value for our lives in so far as they are held to be other than valuations, and the truth which they claim other than value; in particular is this true of religious and historical beliefs" (p. 222).

Mr. Quick has drawn the issue between pragmatism and its opponents to a focal point, that of the relation of truth to value.

Mr. Quick maintains that an idea must first be true in order to possess that sort of value in which the pragmatist finds the truth of the idea. Mr. Quick's contention is that the truth of an idea must itself be something which is other than value in order to possess any value. The pragmatist holds that a certain value of an idea is all that we can properly mean by its truth. The pragmatist maintains that truth is an abstract and general name for values of a particular sort.

Such, it appears to me, is the issue between Mr. Quick and what he calls "The Humanist Theory of Value". Now, I am unable to see that Mr. Quick has made good his main contention, which is, that "To define truth as value is to destroy the value of truth". So far, it seems to me, he has failed to meet the challenge of the pragmatist, that he define what this something, other than value, in which lies the essence of a true idea, really is. I cannot see that Mr. Quick has advanced in his discussion a step beyond the mere assertion of the matter he must prove against the doctrine, that truth is value. Mr. Quick has made admirably clear the point in dispute; but I am unable to see what he has brought forth which tends to disprove the pragmatist's meaning of truth. If Mr. Quick is to maintain his proposition, that, unless the truth of an idea is other than value, that idea cannot *have* value, he is, I think, bound to state in terms that are concrete, what this something other than value really is. Does Mr. Quick mean to content himself with the definition of truth as the agreement or correspondence between the idea and its object—or reality? If so, he must meet the challenge for—definite—and concrete terms of definition as most intellectualists do, namely, by saying, "agreement or correspondence between

idea and its object, are ultimate terms, incapable of, and not in need of, further analysis". But if he elects to make this reply, it would be interesting to know what he would say in answer to the further question, "How can you define the difference between a true idea and a false idea?" The pragmatist is quite willing to accept the proposition that truth implies or involves—a relation between an idea and reality which of course is other than that idea; but, when he is told that this relation is one of agreement, correspondence, or that the object is *as it is thought*,—or as it is asserted to be, he objects that this sort of definition leaves us in mere general and abstract notions. It seems to him that it is entirely proper and quite important to ask, what is it for an idea to agree with or to correspond to—objective reality? How does the idea manage to get into this ineffable relation? Now, I think, the crux of the anti-pragmatist's position is just here,—in his attempt to overcome the difficulty in which he is involved, when he squarely meets the counter challenge of the pragmatist for clear, consistent and really intelligible definition of a true idea. The readers of this journal are too well acquainted with the pragmatist's meaning of a true idea to justify any further exposition of that part of the pragmatist's doctrine.

The pragmatist reduces the relation of an idea to objective reality to terms that are wholly concrete and verifiable in experience. He teaches that the truth of an idea consists in the value of that idea in so guiding and controlling experience as to bring us into direct, experiential relation with the particular object or part of the real world he may be seeking to know and practically to possess. This functional value of an idea is what we mean by its truth. Truth, then, is a species of value. The pragmatist can as consistently recognise other species of value than cognition or truth-value, as can the anti-pragmatist. Emotional, æsthetic, religious, ethical values attach to ideas as well as truth-value; and it is no more difficult for the pragmatist to discriminate between these different values than it is for the rejecter of the value-theory of truth.

JOHN E. RUSSELL.

A POINT IN FORMAL LOGIC.

IN most text-books on Formal Logic we find it stated that when the hypothetical argument is expressed in categorical form the fallacy of denying the antecedent is equivalent to Illicit Major, and that of affirming the consequent to Undistributed Major.

The majority of such text-books also admit that hypothetical propositions can be negative, *i.e.* can have quality, although not quantity.

The point I wish to make is, that the rule above stated only holds when the hypothetical major premiss is *affirmative*. When it is *negative* it obviously is inapplicable, and both the fallacy of denying the antecedent and of affirming the consequent are equivalent (when reduced to categorical form) to two negative premisses.

Thus Dr. Mellone in his admirable text-book (p. 217, 2nd edition) gives the hypothetical argument (with a negative major) :—

“ If S is P, Q is not R; Q is R; \therefore S is not P ”.

This he reduces rightly enough to categorical form :—

“ No case of S being P is a case of Q being R;

This is a case of Q being R;

Therefore this is not a case of S being P ”.

Let us substitute X, Y, and Z for the terms of this syllogism, then we get :—

No X is Y;

Z is Y;

\therefore Z is not X.

Now obviously this argument when its antecedent is denied or its consequent affirmed can never yield either Illicit Major or Undistributed Middle, since the major and middle terms are necessarily distributed in the major premiss—an E proposition.

Let us deny the antecedent here. Then we get :—

No X is Y;

Z is not X;

which gives us two negative premisses. The same thing happens on affirming the consequent :—

No X is Y,

Z is not Y (= Z is a case of Q not being R).

Of course one can escape this by treating “Q is not R” as a term in an affirmative proposition. But this can only be done when one denies quality to hypothetical propositions and manipu-

lates them in an unnatural fashion. Now since modern text-books don't do this as a rule, it seems that obscurity would be avoided by saying in future: "When expressed in categorical form the fallacy of denying the antecedent and of affirming the consequent in a hypothetical argument is equivalent respectively to Illicit Major and Undistributed Middle, when the hypothetical major premiss is *affirmative*; when it is *negative* both fallacies are equivalent to 'two negative premisses'".

To sum up, then, my point is that text-books on formal logic, while admitting that hypothetical propositions have quality, do not seem to have worked out fully the implications of this fact in hypothetical arguments.

T. B. MULLER.

VI.—CRITICAL NOTICES.

The Philosophical Works of Descartes. Rendered into English by E. S. HALDANE, LL.D., and G. R. T. ROSS, M.A., D.Phil. In Two Volumes. Volume I. Cambridge University Press, 1911, pp. vi, 452.

THE present volume is announced in the Preface as intended to place before English readers "all the philosophical works of Descartes which were originally intended for publication". Unfortunately, this promise of completeness is violated in the volume itself. Were it only as a matter of historical interest, the English reader might well desire a complete version of the *Principia Philosophiae*, the work which, more than any other, gives the measure of Descartes' weakness as well as of his strength, and makes it possible to understand the attitude of eighteenth-century Newtonian writers such as Voltaire towards the most illustrious of French thinkers. Yet, for some unexplained reason, the translators, whose Preface promises completeness, have seen fit to present the "English reader" with only such sections of the *Principia* as had already been more faithfully rendered by the late Prof. Veitch, i.e., the metaphysical sections which recapitulate the argument of the *Meditationes*, and the account of the senses with which the work ends. Of the really physical part of Descartes' theory, the *tourbillons*, the ingeniously disguised Copernican astronomy, the doctrine of the three kinds of particles, the unfortunate reader is left to learn what he can from a mere list of section-headings, itself far from strict faithfulness. Such an omission forces one to doubt whether the remainder of the work will come any nearer to completion. We are promised a complete version of the *Objectiones* to the *Meditationes* with Descartes' replies, and this, so far as it goes, is a good point, since even the popularly current French editions often cut down this most important material to a few pages of incorrect abridgment in which the real point both of an objection and of the author's answer to it is frequently misunderstood. But I do not by any means feel sure that it is contemplated to offer versions of the *Géométrie* and the other essays published along with the *Method*. I should like to suggest that the omission of the *Géométrie*, at any rate, would be a capital fault. It is in many ways the best and most original of all the author's works; it is historically im-

portant as the first exposition of analytical Geometry, and as presenting the methods still in use for the solution of cubic and bi-quadratic equations, and it is the only place where the famous *Method* can be adequately studied, because it is the only treatise in which it may be seen in work upon a material of which the writer was a master. I, for one, should find it in my heart to pardon our translators for many faults of which I shall have to speak directly, if they can see their way to include in Vol. II. a decent version of this great and epoch-making work. The other two essays are, no doubt, of less importance, though it should never be forgotten that, as the frequent references to them in other treatises prove, Descartes regarded them as an integral and by no means negligible part of his *Philosophia*, and the *Dioptrique* has also the merit of stating clearly for the first time the fundamental law of refraction. It is from neglect of these and other unfinished or minor papers that the ordinary reader has come to form the totally false conception, popularised by Voltaire, of Descartes as a dogmatist who philosophised *à priori* at his own sweet will in contempt of facts.

To come now to the volume before us. It comprises versions of the following works: the *Regulae*, the *Méthode*, the *Meditationes*, the *Principia*, the unfinished dialogue, *Recherche de la Vérité*, the *Passions de l'Âme*, the *Animadversiones* on the *Programma* of Regius. The first of these is signed by the initials G. R. T. R., all the rest bear the signature E. S. H. The merits of the book as a translation naturally enough vary in different parts; I should be inclined to rank the version of the *Passions de l'Âme*, in spite of certain strange blunders, highest, those of the *Regulae* and the attack on Regius perhaps lowest, though no part of the work is really what a standard English version of a great philosophical classic should be, and might have been made with more care and pains. The text chosen for translation is naturally that of the great Adam-Tannery edition, which is followed with such unnecessary care that more than once the conjectures of its editors have been adopted as against the *editiones principes* without any warning to the reader, even when they are by no means obviously required. This, however, is the least of the faults chargeable on the translators. A translation, it should be remembered, is meant in the first instance for readers who cannot habitually consult the original. Hence it should be as verbally faithful as the usages of language permit, and should never degenerate into comment or paraphrase. In particular, when one has to render a philosophical author who uses terms in a precise and technical sense, there should be a standing term in the version for each standing term in the text. A reader should, *e.g.*, not require to consult the Latin or French to discover whether, in a translation of Descartes, "simple" means *simplex* or *facilis*, whether "intellect" means *ingenium* or *mens* or *intellectus*, whether "to think" means *cogitare* or *percipere* or *intelligere*, whether "fact" stands for *res* or for *veritas*, what "perceive" or "clear" represents,—all examples

of ambiguity taken from the present work. In particular, it should always be remembered that Descartes had the logical terminology of the school's at his fingers' ends, and always used it instinctively with propriety. Hence he should never be credited with the vulgar abuse of language by which any passing state of a thing, or any quality which it happens to exhibit, is spoken of as a "property"; such words as "essence," "essentially," should never be foisted into his text when they are not there. *E.g.*, *necessario* should not be rendered, as our translators like to render it, by "essentially," since in strict accuracy there are many things which are necessary without being attributes pertaining to the "essentia" of a substance. Yet again, for two of the most important of Descartes' works, the *Meditationes* and the *Principia*, we have, besides the Latin originals, French versions made in the author's life-time, and with his approbation. Neither version is a translation made by strict rules. The translators have allowed themselves great freedom in expanding, contracting and changing the language of their originals; both, at times, add passages intended to explain a difficulty or to illustrate a general proposition, both also omit phrases which, occurring in a work not specially and exclusively addressed to the learned, might convey an impression of unorthodoxy; the version of the *Principia* does this so freely that in many sections it is rather an early Targum than a translation. It is therefore of the first moment to decide whether the Latin or the French should be taken as the basis of an English version. And it ought to be clear that the Latin should be preferred; Descartes' own words as he wrote them for the perusal of brother philosophers should have greater weight than any softened or paraphrastic alteration of them for popular circulation, even though the alterations are, in a general way, issued with his own approbation.

Now Miss Haldane professes to translate from the Latin, and to mark any interesting variations taken from the French versions by brackets. But any reader who will take the trouble to go through the English of the *Meditationes* sentence by sentence, along with the Latin of Descartes and the French of the Duc de Luynes, will find that in all but the most striking cases of difference, the English follows the French alike in small additions, small omissions, and usually in the very turn of the sentences. The case of the *Principia*, where the French is much less close to the Latin, is slightly different. Many of the additions, omissions and interwoven comments of the French are adopted in silence; others are passed over. The inevitable inference is that both translations rely so much on the French that they might almost as correctly have been described as made from it, with the Latin lying open as a book of reference, but mainly used merely to discover whether any whole clause has been added or taken away in the French. The description of either translation as made from the Latin in the sense in which Veitch's version is made from the Latin is quite misleading; the English of the *Medi-*

tationes is rather a close rendering of the French, with the omission of a few of its most obvious changes, that of the *Principia* renders neither the Latin nor the French, but represents a compromise made, on no discoverable principle, between the two.

I need hardly add that an English version of a style so neat and forcible as that of Descartes (both in French and Latin) ought to reproduce the qualities of its original. It ought to be terse, whereas that of this volume is often intolerably verbose, without any necessity, and it ought to be dignified and literary, whereas our translators habitually say "commence" when they mean "begin," and regularly use "alone" adverbially when they mean "only". They also show a deplorable fondness for the "journaler" tricks of using slang, and introducing unhappy metaphors where their original is perfectly simple and dignified. Finally, they make not a few excellent "howlers".

This notice is already longer than I could wish, but I am, of course, bound to produce a few instances of the faults I have mentioned. To begin with Dr. Ross's *Regulae*, page 2, we read, "when ever two men come to opposite decisions about the same matter, one of them must certainly be wrong, and apparently there is not even one in the right," a denial of the Law of Contradiction. What Descartes says is mere common sense, "and not even one is evidently possessed of knowledge" (because if he were, he would be able to convince the other of his error). On page 5 (end of second paragraph), *facilis* is translated by *simple*, which ought to be kept for *simplex*. Page 6, *recte inventa* is rendered "what they have correctly made out," a fine specimen of verbiage; on the same page *numerare* is translated by the slang "to total up"; page 8, *iam dubium esse potest* is turned into the following verbiage: "Hence we are now in a position to raise the question as to why"; page 8, three lines from end, it should have been noted that *exsolvi* which the text translates is a conjecture of the Adam-Tannery edition for the corrupt *excoli* of the original text, and that Buchenau's *excolari* is possibly even better; page 14, last line, *temere* does not mean readily but rashly; page 16, *veritates* and *res* are both translated facts, without any hint that these are two very different words in the original; on the same page, *natura* is rendered first *essence* and then *nature*, elsewhere it is also translated *reality*; page 20, *perperam* does not mean "by mistake," but "through oversight"; page 24, to speak of a geometer as "being on the track of the anelastic" is a slangy vulgarism which is not countenanced by Descartes' text; page 30, "if I move one end of a stick of whatever length I easily form a notion of the power by which both that part of the stick and all its other parts are at the same moment necessarily moved" is a hard saying created by a pure mistranslation of one of Descartes' favourite illustrations. What Descartes says is something quite different, "if I move one end of a stick . . . I easily understand that the force by which that part of the stick is

moved necessarily moves all the other parts," etc. Same page (at the end), Descartes does not say that his rules helped him in his inquiry, and were afterwards used by him to "resolve many difficulties," but that he used them *ad plures excogitandas*, to devise further rules (a "howler" arising from neglect of the concord of the adjective in gender with its noun). Page 32, I note the recurrent slang use of the collective "people" in the sense of "persons"; page 35 (statements of rule xii.), *componere*, when used of simple propositions, means to *conjoin*, *complicate*, not "to compare"; page 36, *quaenam ex quibusnam colliguntur* does not mean "the precise fact with which each conclusion is connected" (if the English really means anything at all), but "what (truths) are inferable from what"; page 40, to speak of the "summaries" on which Descartes always lays such stress as "handy" is not English but American, and bad American at that; (the original has simply *commodiores*). Page 43, Descartes does not say that "many necessary propositions become contingent when connected," which is obviously absurd, but that they become so when *converted* (*conversae*). In Rule XIV. the sense is obscured throughout by failure to see that *aequalitas* means not a "uniformity" but an *equation*. Page 61, paragraph 2, *nihil aliud* does not mean "not precisely," but *nothing but*. Page 66, the second footnote, is without sense, whereas the meaning of Descartes is perfectly plain, *viz.*, that a line incommensurable with our (assumed) unit of length cannot be symbolised by a row of points; page 70, in the description of the formation of an equation, *aequalem* means *equal*, not uniform. Indeed, it is not clear what Dr. Ross imagined himself to mean by making "a total magnitude uniform with a certain known magnitude".

I turn now to the translations initialled by Miss Haldane. For the sake of brevity, I will only mention one or two of the worst mistakes in the *Meditationes* and *Principia*, adding to them some further examples from the attack on Regius and from that part of the *Recherche de la Verité* which only exists in a Latin version. I will, however, remark that it is scandalous that two such technical words of Cartesian philosophy as "idea" and "think" should have been used freely to translate other originals than *idea* and *cogitare* (e.g., *notio*, *conceptus*), and that "perceive" should frequently stand not only for *percipere*, but for *intelligere*, and even *sentire*. Page 134: It was not Leo X., but the fifth Lateran Council which enjoined philosophers to refute the theory that the existence of God and the immortality of the soul are mere matters of faith, as Descartes correctly says, and his translator ought to have known. So I must warn the reader that the alternative vel—vel, in the sense of *either—or*, if you prefer it, is regularly translated as if it were *aut—aut*, *either . . . or else* (but not both), often to the great detriment of the philosopher's meaning. So I must object to the vulgarity by which *extra mentem*, etc., is repeatedly rendered "outside of the mind," etc. In the West a man is said to

"put himself outside of" his dinner, but would Miss Haldane care to say that a man's purse was "inside of" his pocket?

Page 165, we read "there remains *alone* [the correct English would be *only*] the idea of God concerning which we must consider whether it is *not something* that is capable of proceeding from me myself". The structure of the English sentence emphatically anticipates the answer, Yes, it is. But the Latin is *an aliquid sit quod a me ipso non potuerit profisci*, "whether it is something which cannot have proceeded from myself," and the French is to the same effect. The negative answer which Descartes means to give is rightly prefigured in the form of the question. Page 170, "without having caused me in some measure to know what they are," Latin, *nisi simul effecerit ut quanam illae essent cognoscerem*; French, *sans avoir fait en sorte en même temps que je susse ce qu'elles étaient*. The "in some measure" of the English has nothing to represent it in the original, and has been interpolated here from a further clause which the Duc de Luynes has added to Descartes' Latin. Page 176, paragraph 2, the translation makes Descartes doubt whether "any world existed"; what he really allowed himself to doubt was *an aliquid in mundo existeret*, or as the Duc de Luynes puts it, *si quelque chose existait dans le monde*. Page 188, hunger is oddly called an "emotion of the stomach". This is from the French, but the translator seems not to be aware that *emotion* is a wider term than our "emotion". The Latin, from which she is professedly making her version, has the formally correct *vellicatio*. Page 194, the translation makes Descartes say that there is no more reason to suppose that there is really in fire anything like the sensation of heat than to suppose that "there is in the pain something resembling it". This is, of course, meaningless. What the author says is that there is no more reason for supposing the heat we feel to be "in" the fire (as the scholastic doctrine does) than for supposing the pain of the burn to be also in the fire (as the scholastic doctrine does not), *nulla profecto ratio est quae suadeat in igne aliquid esse simile isti calori, ut neque etiam isti dolori*. Page 198, second paragraph, drinking when we are thirsty is said to be "essential" to health; Descartes, who used scholastic language with propriety, knew, of course, that health is not a *substantia* and therefore has no *essentia*; he says with strict accuracy that the drinking is "conducive" to health. Page 210 (translation of the Letter to the Reader prefixed by Descartes to the French version of the *Principia*), we have a striking example of a standing blunder of the translator,—ignorance of the true English equivalent of the expression *je voudrais* followed by the infinitive; *je voudrais ici expliquer* does not mean "I would like here to have explained" (which, in fact, is not English for anything at all), but "I wish I could explain here". Throughout the whole first division of the *Principia* the carelessness about the rendering of technical terms is at its height; *idea* stands now for *idea*, again for

conceptus, again for *notio*; *know* sometimes means *cognoscere*, sometimes *percipere*, while *perceive* may stand for *percipere* or *intelligere* or even *sentire*. To give a few examples of actual mis-translations. We read on page 234 (*Pr.* i. 38) that "the faults of these subjects may often be attributed to other masters, but never God". It is not clear what Miss Haldane intends. The "these" should naturally identify the "subjects" with our "modes of action," which have been referred to above, but it would be hard to say to what "masters" these defects may be "often" attributed. The fact is that "these" is a pure interpolation of the English translator; what Descartes says is simply that the misconduct or failure of a subordinate is often not his own fault but that of a sovereign or superior who gives an improper order, but that this does not hold good when the superior is God, the *ens summe perfectum*. Page 238 (i. 48), "divisibility of things into parts of themselves" is said, oddly enough, to be a proprium of *res extensae*. If Descartes had meant this, he would have spoken simply of "divisibility into parts," without the tautology of his translator; what he does speak of is *partium ipsarum divisibilitas*, i.e. (divisibility into) parts which are themselves divisible, that is, *divisibility in indefinitum*. Page 239 (i. 51), "When we conceive of substance we merely conceive an existent thing which requires nothing but itself in order to exist. To speak truth, nothing but God answers to this description, as being that which is absolutely self-sustaining, for we perceive that there is no other created thing [*sic*] which can exist without being sustained by His power." This is an excellent instance of the way in which the translator follows and outdoes the French in replacing accurate statement by loose paraphrase. The correct translation is "by substance we can understand nothing else but a thing which exists so that it needs no other thing for its existence. And, in fact, only one single substance can be understood which needs absolutely nothing else, viz., God. All other things we perceive to exist only in virtue of the concursus of God." Page 241 (i. 55), "*How we can also have a clear understanding of duration, order, and number.* We shall likewise have a very different understanding of duration, order, and number if, etc." Here one and the same word *distincté* is mistranslated twice. In the *lemma* it is represented by "clear," though Descartes always distinguishes the clearness of a perception from its distinctness; in the proposition itself, it is represented, perhaps from pure carelessness in proof-reading, by the nonsensical "different". Page 248 (i. 69), we get "the body which is perceived" for *corpus visibile*, number is, without any warrant in the text, made a "property of body," though the third *Meditation* makes it plain that number is no more a proprium of body for Descartes than it is for Locke. Page 256 (ii. 5), "if whenever we moved our hands in some direction, all the bodies in that part retreated as soon as our hands approached them"; this represents the *aussi vite* of the French

version; the Latin is much more precise, *eadem celeritate*, "with the same velocity". Thus we have absolute proof that here at any rate the Latin text has not been taken as the basis of the translation. Page 258 (ii. 9), "but [so improperly] that it is easy to see," etc.; Latin *atque ita*, "and thus it is easy to see". Page 264 (ii. 21), "We likewise recognise that this world, or corporeal substance in a universal sense, is extended without limit"; Latin, *sive substantiae corporeae universitatem*, "this world, or total aggregate of bodily substance". Page 268 (ii. 58), "That if any particles of a fluid are more slowly moved than a hard body existing in it, that does not hold good in this part of the fluid". In the English this sentence has no intelligible sense. The original is perfectly clear, "That if any particles of a fluid move more slowly than a hard body contained therein, the fluid does not behave as a fluid in that part" (*illud hac in parte fluidi rationem non habere*). Page 271 (iii. 9), "That the light of the sun and fixed stars shine by their own light". Descartes is chargeable neither with the false grammar nor with the illogical tautology of this sentence. Page 273 (iii. 41), "That the distance of the fixed stars is requisite for the motion of the comets, as they now appear in our heavens". What Descartes says is "comets which are now agreed to be celestial bodies" ("*quos iam constat esse in coelo*"). The allusion, of course, is to the controversy, in which Galileo took the wrong side, whether comets should be regarded as "heavenly" bodies or merely as exhalations from the earth. As the clause is not represented in the French, the blunder about its meaning is entirely the translator's own. There is a similar blunder, due to ignorance of the meaning of *constat*, just below in the enunciation of iii. 45. Page 279 (iii. 153), "Why the moon . . . diverges less from its regular motion in conjunction than in quadrature". Descartes says *a suo motu medio*, "from its mean motion," which, unlike the English, has a definite mathematical sense. Page 281 (iv. 16, 19): In the enunciations of both these the conjunction *quod*, "that," is regularly mistaken for a relative and rendered by "which," though this gives the curious concord "*effectus quod*". In the enunciation of 18 a more complicated blunder is made about the "second" effect of the primary motion, *viz.*, *quod una corpora secernat ab aliis et liquores expurget*, "that it separates some bodies from others and purifies liquids". Miss Haldane renders "that one body (*una corpora*!) separates from the others, and purifies liquids". Thus we get *una corpora*, "one body," *aliis* in a sense which requires *ceteris*, and the "purifying" working of the "second effect" ascribed to the imaginary "one body"!

Page 262 (iv. 40), Descartes' proposition is falsified by the insertion of a negative which makes nonsense of it. Page 288 (iv. 183), "Why rust, dampness and situation also diminish them" (*viz.*, the powers of a magnet). If the translator had troubled to read the brief discussion which follows on this enunciation, she would have

seen that *situs*, when conjoined with *rubigo*, does not mean "situation," but "mouldiness".

Page 297 (iv. 201), "That *certain* sensible bodies are composed of insensible particles". Of course, the Cartesian doctrine is that *all* bodies are composed of insensible particles. The blunder is plainly due to careless reading of the French version of the lemma, "*qu'il est certain que les corps sensibles sont composés de parties insensibles*"; the Latin, though professedly the text translated, has not been consulted, since its form would have precluded the mistake, *dari particulas corporum insensibiles*. *Recherche de la Vérité*. Page 309, "it is *no longer* the duty of an ordinary well-disposed man to know Greek and Latin any more than it is to know the languages of Switzerland or Brittany"; true version, of course, "it is *no more* the duty . . . than it is, etc.". Page 310, "in order that one should not allow one's judgment to be *beguiled* into admiration of an unknown thing," text, *prévenu par l'admiration*, "*beguiled by* wonder at". Page 311, "the immortality of the creatures and their state after the *consummation of centuries*"; *la consummation des siècles* means, of course, the "end of the ages," "the end of the world". Page 312, "who would *probably* have to employ all the rules of his art" (!); French, *aurait beau pratiquer toutes les règles*, "would find it in vain to employ". Page 322, "from which they *start forth*"; original, *in quod desinunt*. Page 323, "on the authority of precepts"; original, *praeceptorum auctoritate*, "on the authority of preceptors" (!).

The translation of the notes on the *Programma* of Regius do not give one a very high opinion of Miss Haldane's knowledge of Latin or fitness to translate from that language. I note only one or two of the worst errors. Page 433, Art. 11 of the *Programma*, "As mind is a substance and *in being born* is brought for the first time into existence, the most accurate opinion seems to be that of those who hold that the rational soul *was* brought forth by God *by* generation, etc." Here there are at least two bad errors, if not three. "In being born" completely misrepresents the Latin *generatione*; the opinion in question, which is that of official orthodoxy, is that the *anima rationalis* is created at the moment of *generation*; no one held that the foetus has no "rational soul" until birth. Further, the tense in the next sentence "*was* brought forth," is wrong. Regius says *produci* in the present, because he is speaking of a process which takes place every hour; the translator seems to think he means something done once and for all at the beginning of the world. Last, "*by* generation" is wrong and amazingly heretical. It is only the Second Person of the Trinity who is produced from the Father *per* generationem; the "rational soul" of Peter or Paul is not *generated* but, according to the prevailing doctrine, which Regius means to uphold, *created* by God simultaneously with the generation of the corresponding body. So Regius correctly writes *per immediatam creationem a Deo in generatione produci*.

Page 437, last paragraph. The translation makes Descartes credit Regius with the following syllogism: "Whatever we can conceive can exist. But the mind is one of the aforesaid (*viz.*, a substance, or a mode of corporeal substance), because it can be conceived, . . . Ergo, etc.". The real syllogism imputed to Regius is, "Whatever we can conceive can be; but mind *can be conceived* as one of these things aforesaid . . . since no contradiction is implied. Ergo." Badly as Descartes thought of Regius, he did not, like Miss Haldane, suppose him capable of using the conclusion of an argument as also its minor premiss. Same page, higher up, we read of an "attribute of a thing which exists *by virtue of that attribute*," where the author is speaking of an attribute of something *quae potest absque illo subsistere*. Page 439, a whole sentence goes hopelessly wrong because the translator does not know, without a French forerunner, the logical meaning of *repugnat*, which she actually renders "he refutes," rendering (*quod*) *unius et eiusdem rei essentiam, quam repugnat non eandem semper manere . . . supponat esse per naturam dubiam ac proinde mutabilem, i.e.* "in that he assumes that the essence of one and the same thing (which must be held to remain always self-same, if absurdity is to be avoided) may be by nature doubtful and consequently mutable," in the following way: "*though he refutes the doctrine that the essence of one and the same thing does not always remain the same . . . yet he supposes that this essence, etc.*". This it is to be *super grammaticam*!

Page 447, there is a curious little error when Descartes is made to speak of Regius as an incompetent "Physician,"—the Latin being *Doctor*. The translators have forgotten here as elsewhere that the Latin for "physician" is not *doctor* but *medicus*. Regius was, to be sure, a medical man, but when Descartes speaks of him as a *Doctor*, he means what Pope meant when he asked, "Who shall decide when Doctors disagree?"

Page 449, the use of "compile" to render *componere* shows that the translator, like so many who profess to write English now-a-days, does not know what "to compile" means, and is unaware that to "compile" a book is almost incompatible with "composing" it.

Ib. lower, "precautions which are observed by some other writers, but not by the Holy Spirit". Descartes was hardly the man to talk quite so jauntily as this of the Holy Spirit "and other writers". What he does say is "precautions which have *never* been observed by any other writers (*i.e.*, than myself), nor even by the Holy Spirit Himself".

On the whole, while I cannot regard the new version of Descartes as comparable with that of Veitch in the ground which is common to both, the rendering of the *Passions de l'Âme*, which, though so highly important, has long been virtually inaccessible to the merely English reader, is, in my opinion, far the most satisfactory part of the book, and freer from mistakes, presumably because the translator

knows more of French than of Latin. Yet even here, it is a deadly fault that *volonté* and *désir*, which are always carefully discriminated in the French, have been hopelessly confused in the translation by wantonly translating *volonté* at random "will," "volition," "desire". So the persistent rendering of *sentir* by "perceive" makes nonsense of the whole Cartesian doctrine of sensation. On page 354, there is a singular "howler" when we are told of certain persons that "they never cause their will to do battle with its proper arms, but only with those which furnish it with certain passions". Of course the last clause ought to be "those with which certain passions furnish it"; the translator has confused the objective case *que* of the relative with the nominative *qui*. Page 368, *un particulier* does not mean "a particular man," but "a private man"; Louis XIII. was as much a "particular man" as Descartes, but he was not *un particulier*. Page 376, *rechercher la richesse* does not mean "to investigate riches"; if it did, the statement of Descartes that *en recherchant la richesse*, "we necessarily shun poverty," should imply that all Professors of Economics are millionaires, which is known not to be the case. Page 376 (*Passions*, Art. 102), "the nerves of the sixth part" is an odd mistake for "of the sixth pair"; and page 378, "concoction" is both vulgar and inaccurate as an equivalent of *breuvage*. Page 383 (*Passions*, Art. 118), I do not know by what process *colère* has come to be translated *prayer*. Page 403 (*Passions*, Art. 156), *offensé* does not mean "harmed," but "insulted," "affronted". Page 409 (*Passions*, Art. 169), there is no sense in saying that a miser "desires never to be away from his treasure, in case he is robbed of it". Descartes says "for fear he may be robbed". If the translator intended to say it too, she has not succeeded. Page 415 (*Passions*, Art. 184), I do not know what the translator means by "battered blood"; Descartes' expression is *meurtri*, which appears simply to signify "livid". On the whole, I recommend the version of the *Passions*, though the confusion of *désir* and *volonté*, and again of *percevoir* and *sentir*, was a cruel trap to set for confiding readers.

A. E. TAYLOR.

Die logischen Grundlagen der exakten Wissenschaften. Von Dr. PAUL NATORP. Pp. xx, 416. Leipzig and Berlin: B. G. Teubner, 1910. Price, bound in cloth, M. 6.60.

THIS is the twelfth volume of the series of books published by Messrs. Teubner under the name "Wissenschaft und Hypothese"—the title of the German translation of Poincaré's well-known work, which forms the first volume of the collection—and which is devoted to historical, critical, or wholly original expositions of various sciences, especial regard being paid to their foundations and methods, their aims and applications.

Prof. Natorp attempts to build up a philosophy of mathematics and mathematical physics. "The 'philosophy of nature,' which flourishes luxuriantly at the present time, can only be efficaciously opposed by a genuine philosophy, not of nature, but of natural science on a mathematical foundation, which takes from positive investigation no more than the questions, and furnishes by its own work the answers" (p. iv). This is the task of the "Marburg school" of philosophy, under the leadership of Hermann Cohen, and Prof. Natorp's book is written in the spirit of a disciple of this school, and abounds with references to the works which have proceeded from it.

Our views of these fundamental questions have been deeply modified by modern investigation, and Prof. Natorp's book, dealing as it does with the principles of logic and mathematics, number, infinity, continuity, dimensions, mathematical space and time, and the principles of mechanics and physics, accordingly takes into account these modern investigations by mathematicians and other scientific men to an extent which is unfortunately unusual in a philosophical work. But, though the index of literature (pp. xi-xx) is surprisingly full, yet we miss in it references to several other important works of Frege, Pezoldt, and Russell; the recent book of von Dantscher on Weierstrass's theory of irrational numbers should have been mentioned; and the fact that a second and augmented edition of Mach's *Erhaltung der Arbeit* was published at Leipzig in 1909 (that published at Prague in 1872 being out of print) might conveniently have been added.¹

The first chapter contains an explanation of what is the problem of a logical foundation of the exact sciences. All exact sciences aim at proceeding logically, that is to say, at using only rigorously defined concepts and at proving what can be proved for them, but not that alone makes them into sciences of which logic is the only foundation. The decisive point is whether the fundamental conceptions of a science are offered by logic, and whether its fundamental propositions are contained in, or derivable from, the laws of logic, and not merely "logical" in some loose, general sense—that is to say, consistent and connected (pp. 1-2).

Now, that mathematics are logical, properly speaking, has been maintained by many philosophers, from Plato downwards, and, among modern mathematicians and logicians, by Grassmann, Frege,

¹ It must be remarked that too little attention is paid by Prof. Natorp to the work of the mathematical logicians, which he criticises so severely. Thus, the names of Peano and Pieri are not mentioned in the whole book: Peano's work in mathematical logic is too well known to be referred to here at greater length; while Pieri is the author of one of the few published papers on the question of the fundamentals of logic, and such questions as those of their consistency and independence. The most complete part of Prof. Natorp's index of literature is that which relates to the papers—even review-articles—of such philosophers as Cassirer, Cohen, Görland, and Natorp.

Dedekind, Russell, and Couturat. On the other hand, Kantians and neo-Kantians maintain that there is a non-logical element in the foundations of mathematics. But both schools of thought are alike in considering the character of mathematics to be purely *a priori*, and in rejecting the empiristic, psychological and nominalistic view held, for example, by Helmholtz and Kronecker.

Prof. Natorp also undertakes a purely logical founding of mathematics, and thus maintains its apriority, but in another sense to that of those just named. His philosophy "borrows the last presuppositions of Kant's critique of knowledge, without maintaining the distinction of pure intuition and pure thought in the same sense as this critique. But this single deviation necessitates a thorough variation in the disposing of the fundamental epistemological concepts" (p. 3).

The thesis, of Russell and Couturat in particular, of the identity, in essentials, of logic and pure mathematics,¹ is found fault with on the ground that, in this view, logic is a deductive science analogous to algebra, and the establishment of the laws of the deductive method and the justification of the necessary and general validity required by it cannot be effected by the method itself (p. 5). And, on p. 6, Prof. Natorp exposes what he considers to be the error of those for whom symbolic logic is fundamental, by the following account of the process of deduction they follow: "At the head of things are put definitions, which expressly only denote conventions about the use of certain symbols, and not judgments which are necessarily true or false. Then fundamental propositions with respect to these symbols are formulated . . . ; and these prescriptions too cannot be judgments. . . . Then we calculate, according to these prescriptions . . . , and mechanically 'draw' conclusions." Prof. Natorp rightly calls this method formalistic, and, on p. 8, mistakes a passage in Couturat² to mean that something like that is the method followed by mathematical logicians.

But mathematical logicians do not think that they can justify the principles of logic deductively, and do not, of course, attempt the task of beginning with definitions. They begin with primitive ideas and such primitive propositions as are necessary to make deduction

¹On p. 4, Hilbert's remark, that formal logic presupposes something arithmetical, is referred to with approval. But this opinion is due to defects in language, and is of the same nature as the opinion—which cannot be held by a symbolic logician—that the idea of what is called a "one-one relation" presupposes the number "one".

²Couturat, *Les Principes des Mathématiques*, Paris, 1905, p. 37. Couturat here states that, formally, we can regard the primitive notions as mere symbols occurring in certain ways fixed, or partially fixed, by the expressions of the primitive propositions. Obviously all depends on the word *formally*, by which Couturat means: "if we consider the merely mechanical aspect of reasoning," and not "from the point of view of (formal) logic".

possible.¹ But we must not insist too much on what may be merely a carelessness, for, on the next page, Prof. Natorp describes as the traditional scheme of the Aristotelian logic, to which symbolic logicians hold with dogmatic prejudice, "defining up to certain indefinable concepts, proving up to certain unprovable propositions" (p. 7). And these primitive ideas are, according to Prof. Natorp (p. 8), considered by modern symbolic logicians as mere symbols, and the primitive propositions as embodying rules for 'calculating' with them. Such a view would be only another form of the nominalistic theory too common among mathematicians such as Helmholtz, Kronecker, Pringsheim, Stolz, Thomae, and Schubert, who have shown no particular acquaintanceship with logic; and one would think the fact, mentioned by Prof. Natorp on p. 3, that Frege has been most active in combating this kind of formalism, would rouse anyone's suspicions that such an error is not committed in the works of the modern founders of mathematical logic. And consequently we cannot agree with Prof. Natorp's depreciation (pp. 8-11, 18-21) of the "analytic" (in the narrow Kantian sense) function of thought. We agree that logic is necessary to found and justify the deductive processes of mathematics; but we deny that *this* logic is not included in what is called symbolic or mathematical logic, and hence we deny that symbolic logic is wholly concerned with purely mechanical processes, in which the understanding has no place.

It is, says Prof. Natorp, the operation of synthesis which is primitive; knowledge is an infinite process; to 'understand' is not to come to rest with one's thoughts, but to set every apparent state of rest again into motion; the method, the process is everything; the "factum" of science is the "fieri"; and so on (*cf.* p. 14).

This conception of thought as motion (*cf.* p. 42) may, it seems to me, arise from either of two causes. In the first place, there may be a confusion between psychology and logic: we may be so impressed with the fact that the discovery of truth is gradual, unresting, and continuous, that we conclude unjustly that the truth discovered is in a fluid state. In the second place, we may think, like Bergson and Mr. H. G. Wells, that our thought, as expressed in our logic, is, because of its essential discreteness, inadequate to the assimilation and reproduction of the essentially continuous nature of reality. The first confusion does not seem to be fallen into by Prof. Natorp, for, on pp. 36 and 99, he clearly distinguishes the logical aspect from the psychological. So I think that Prof. Natorp, like Bergson and Mr. Wells, has not grasped one of the great results of modern mathematical logic, that, namely, familiarity with the theory of ordered infinite aggregates has robbed the statement that, say, a continuous curve is a series of points, of all paradox. What

¹ Cf. Whitehead and Russell, *Principia Mathematica*, vol. i., Cambridge, 1910, p. 94.

this failure ultimately leads to is a protest against the analysis of a propositional function like "it rains" into a class of propositions of the general form: "it rains at time t at the place (x, y, z) ".

Prof. Natorp, then, has misunderstood mathematical logic both by thinking it nominalistic and by implying that it is, in its nature, discrete. It is true that he shows how we generate continuous series in mathematics, and says, somewhat inaccurately, that "the number is continuous" (p. 205); but this only brings out the inconsistency of modern logical results with Prof. Natorp's premises. And Prof. Natorp has unconsciously shown the impossibility of constructing a logical theory of mathematics without the help of symbolic logic. For, on pp. 114-115, he reiterates the opinion—also held by Hilbert—that numbers are presupposed in logic. In the same way, Prof. Natorp objects, on p. 120, that the definition (of Frege) of the unit-class presupposes the number 2, for the definition contains the words: "if a and b are members of the class, and $a = b$ ". Prof. Natorp is simply misled by a verbal form, as Couturat¹ acknowledges that he himself was before he was acquainted with mathematical logic.

We will next turn our attention to the third chapter, on number and calculation.

On pp. 117-123, Prof. Natorp criticises Frege's definitions of the phrases "a concept B has the number n ". He does not notice, by the way, that Frege explicitly gave up these definitions, because they do not define "the number n " independently, and so we have no means of judging logically whether Julius Cæsar is a number or not. On p. 118 Prof. Natorp says inaccurately that Frege tries to "reduce the concept of unity to that of identity," and then mistakenly and triumphantly points out that here is a circle, because *numerical* identity is meant. Then again, on p. 120, he rashly concludes, as we have seen above, that to speak of " a and b " implies that we have assumed the notion of 2.

All of these mistakes, like the errors in such phrases as "the number is infinite" (p. 160), or continuous, or many-dimensional, arise from non-acquaintance with the symbolic or mathematical logic.

On p. 157, Prof. Natorp is wrong in stating that the commutative law is not irrelevant with cardinal numbers. With them, since cardinals do not depend on order, the commutative law is simply concerned with notation.

In the fourth chapter, on infinity and continuity, Prof. Natorp seems to me to go wrong in some purely mathematical directions.

What Paul du Bois-Reymond called "the Infinite" ($U(f)$) of a

¹ *Op. cit.*, pp. vii, 24, 26, 47-48. The same error of criticising mathematical logic by criticising its bad verbal translation has been made by Poincaré.

function f can, it seems, be (what has not been done) defined by the help of Russell's "principle of abstraction". For: f is "infinitely equal to" g , $U(f) = U(g)$, states a proposition about a relation which is reflexive, symmetrical, and transitive,—“isoid” we may call it for shortness. The ordered aggregate of all such U 's is an aggregate for which the axiom of Archimedes does not hold. This “axiom” is a provable *theorem* for the aggregate of real numbers.¹ Cantor's proof is referred to by Prof. Natorp on p. 169, but the important logical completion of this proof by Peano is not mentioned; and Prof. Natorp's own contribution, that Cantor's theorem is so evident as to require no proof, can hardly be taken seriously.

On p. 172, Prof. Natorp says that: “Cantor once remarked that his transfinite stands and falls with the irrational. In fact both problems are internally connected with one another. With both the problem of the infinitesimal is closely connected; all these problems are united in the fundamental motive of continuity which is common to them.”

Such a remark as this is unilluminating without either a fuller explanation or a reference to one. Cantor's statement is in his *Zur Lehre vom Transfiniten*, Halle a. S., 1890, p. 35.² In a way, the transfinite ordinal numbers are analogous to finite irrational numbers; in both cases they are the least numbers which are greater than certain actually infinite aggregates of numbers.

That part (pp. 172-193) of the fourth chapter (on infinity and continuity) that deals with irrational numbers appears to me to be, in spite of some errors, the best part of the book. For Prof. Natorp has correctly grasped the fact that we must prove what mathematicians call the “existence”³ of irrational numbers, and has pointed out—what has escaped the notice of almost everybody—the great merits, in this respect, of the theories of Weierstrass and Pasch. But the errors and deficiencies must not be passed over.

When describing, on p. 174, how the introduction of infinite, non-periodic decimal fractions leads to the conceiving of new, non-rational numbers, there is inaccuracy of expression. If, says Prof. Natorp, no rational limit exists, “it is yet possible, in so far as the series is subject to a definite law, to express the required limit (which does not exist among the rational numbers) as nearly as we wish,

¹ Cf. Cantor, *Math. Ann.*, vol. xxi., 1883, p. 552; *Zur Lehre vom Transfiniten*, Halle a. S., 1890, pp. 50-53; *Math. Ann.*, vol. xlv., 1895, pp. 500-501; Schönflies, *Encykl. der math. Wiss.*, i., 1, pp. 203-205; Fringsheim, *ibid.*, p. 70; Russell, *Principles of Mathematics*, Cambridge, 1903, pp. 334-337.

² Cf. *ibid.*, pp. 48-49, 54. Cf. also Cantor, *Math. Ann.*, vol. xlv., 1895, pp. 508-510; Russell, *op. cit.*, p. 283, second note.

³ It would be better to use some other word, such as “being” or “entity” for this, because “existence” is also used by mathematicians and symbolic logicians as an attribute for a class which is not null. A member of a class, which is not itself a class, ought not, then, to be said to “exist”. Cf. *Monist*, Jan., 1910, vol. xx., pp. 113-114.

by rational values". It should be emphasised that the existence of a number which is not rational but can be approximated by rational numbers is silently postulated in this. Of course, one can, as Kronecker did, regard an infinite series which is said to have an irrational sum as merely the datum of a process for finding an infinity of rationals which solve some given problem more and more approximately; but, if we are to regard the series as determining one number, which solves the problem exactly, we must, it seems, postulate. Now, the more or less successful attempts to define irrationals in such a way that their existence need not be postulated, is the object of the modern theories of irrational number. Prof. Natorp has seen that this is the main point, and his criticism on Dedekind (pp. 178-179), and his perception that the theories of Weierstrass and Pasch¹ fulfil the requirement² (p. 182), are excellent.

But when, on p. 182, Prof. Natorp speaks of Weierstrass and Cantor using "the convergent series itself as a mathematical object which is as definite as the rational numbers" and implies that Heine also had this object, he makes two errors and one obscurity. First, as to the obscurity: the word "convergent" is usually applied to such series as we know to have a limit. It is obviously not so here; and we may, as Prof. Natorp ought to have pointed out, define the "convergence" of a series in a way which can, when we have defined our real numbers, be proved to be equivalent to the other way, without presuming the existence of a limit. If we do not define "convergence" in a way which does not depend on this presumption, it is an obvious circle to define irrational numbers as in any way defined by convergent series; and it was the avoidance of this very frequent logical error that seems³ to have been the leading motive in Weierstrass's theory. This logical error is avoided by all the modern theories, whether they define satisfactorily the real numbers or not; and we may remark, by the way, that neither Frege nor Russell have given the advancers of these theories due credit for this.

I come now to the two errors: Cantor did not define, as Weierstrass did, a real number as a certain class of rational numbers, but simply said (as Dedekind did in another form) that it is "defined by" this class; and, for Heine, real numbers were merely signs, and not classes. Cantor, indeed, seems to have combined the opinions that real numbers are signs, and that it is absurd to say that integers are.⁴

There is one point about the definition of numbers as classes on

¹ Here Prof. Natorp might, with advantage, have referred to the views of Weber and Peano.

² He does not mention the theories of Frege and Russell, which also fulfil this requirement.

³ Cantor, *Math. Ann.*, vol. xxi., 1883, p. 566.

⁴ Cf. *Math. Ann.*, vol. xxi., pp. 589-590; *Zur Lehre vom Transfiniten*, pp. 16-17.

which it is important to be quite clear. If a number is defined as a class, if we can point out a member of that class, we have proved the "existence" of the class; and Russell¹ made a special point of having proved the existence of various numbers, types, and classes of spaces. But progress (since 1903) in the treatment of the paradoxes which appear in the theory of aggregates gradually revealed the fact that this sense of the word "existence" is only a part of what mathematicians mean by that word. I hope to develop this question more fully on another occasion, and will only remark here that what is important for the mathematician is not the *existence* (the being a not-null class) of a number, but its *entity*.

Prof. Natorp deals at some length with Veronese and (p. 22) blames Russell for not paying sufficient attention to his work. But Russell's and many other people's grounds for so acting are quite clear. Veronese retrogresses in *postulating* (p. 183) irrationals, and is wrong in regarding "Archimedes's axiom" as not a provable proposition in the domain of real numbers.

In the note on pp. 221-222 is a reply to Russell's criticisms, in his *Principles of Mathematics*, of Cohen.

The fifth and sixth chapters are on dimensions, time and space, and the seventh and last chapter, on the mathematical principles of natural science, seems to me to contain much that is good. There is some good work, for example, in refutation of empiristical views on the impossibility of absolute position; but Russell's contributions, in *MIND* and elsewhere, are wholly ignored.²

On p. 381, Prof. Natorp states that Hamilton's principle is "*das wichtigste und weitesttragende*" of the integral principles of mechanics, and, to support this view, quotes Mach on p. 382. But, since Mach wrote the sentences referred to, the mathematical investigation of principles which depend upon the variation of an integral has, thanks principally to the work of Hölder, made some progress. It is now known³ that there is a whole class of such principles, which includes Hamilton's principle and the principle of Least Action in its generalised form as special cases, and all these principles are equivalent to d'Alembert's principle. The only advantage that Hamilton's principle has over the others is a purely technical one: the process of variation is a somewhat simpler one.

And a further remark should be made: Gauss's principle of least constraint in its widest form embraces cases where the conditions

¹ *Principles of Mathematics*, pp. ix, 497-498, etc.

² In this connexion, I may, perhaps, be allowed to refer to the notes which I have added to a translation of Mach's *Conservation of Energy*, just published (Chicago, 1911), in which fairly complete literature-references are given.

³ See Voss, *Energkl. der math. Wiss.*, iv., 1 (1901), pp. 88-97; Ostwald's *Klassiker der exakten Wiss.*, Heft 167; and Jourdain, *Math. Ann.*, vol. lxx., 1908, pp. 513-517.

are given by *inequalities* and not merely by *equations*, and so applies more generally than d'Alembert's or Hamilton's principle.¹

On p. 382, Prof. Natorp quotes with approval the proof of Schütz that, from the energy-principle, supposed to hold if the system is given a constant motion in space, Newton's laws can be derived. But he does not mention that, according to Voss's criticism,² Schütz's method only proves the equivalence of the "absolute principle of energy" and Newton's laws in the case where the system reduces to *one* material point.

I have confined myself, perhaps too much, to those points which appear to me mistaken, and have not insisted on the undoubted good features of the book. Prof. Natorp has just the merits one would expect in a philosopher writing on mathematics: he has neither the mere mathematician's tendency to nominalism, nor his inability to distinguish between the integer 2 and the rational and real number also denoted by 2 (*cf.* pp. 129-130, 140-143).

The book is well printed and strongly bound.

PHILIP E. B. JOURDAIN.

The Philosophy of Bergson. By A. D. LINDSAY. J. M. Dent & Sons, 1911. Pp. viii, 247.

THERE is a danger, Mr. Lindsay thinks, that the very brilliance and charm of Bergson's writing may be a hindrance to the appreciation of him as a philosopher, and he has accordingly given us a study of his philosophy which endeavours to show its unity and systematic nature, and particularly its connexion with the historical development of philosophy, more especially with the philosophy of Kant. The result is a most valuable criticism and appreciation of Bergson's arguments as they throw light on the problems of modern philosophy. Mr. Lindsay has not attempted to give a detailed and complete presentation of Bergson's philosophy. He has not tried to possess his readers with that *globale* view which Bergson himself so values, the magnificent conception of the *élan vital*, into which the whole of existence is gathered together, and whose immense *poussée* has evolved individual lives. Mr. Lindsay's purpose is rather to lay bare the abstract problems that underlie the imagery, and to submit the reasoning to critical analysis. The fact that the philosophy emerges triumphant from the ordeal of such a test is the surest ground for prophesying its enduring influence. The book, therefore, is not an introduction to the philosophy of Bergson but a criticism of its principles and method.

The problem that we meet with in Bergson's philosophy is, Mr. Lindsay holds, essentially the problem of the Kantian philosophy.

¹ *Encykl. der math. Wiss.*, iv., 1, p. 86.

² *Ibid.*, p. 116. The problem of the energetical foundation of mechanics is dealt with on pp. 115-116.

It is the problem formulated by Kant in the *Prolegomena*, How is metaphysic possible? And the argument by which Bergson considers that he has reached the solution is strikingly analogous to the argument which led Kant to the negative conclusion. So much is Mr. Lindsay impressed with this analogy that he considers Bergson to have, in effect, directly continued the work of Kant and brought it to a satisfactory solution on the same lines, but by the consideration of facts practically unknown in Kant's time, namely, the biological and non-mathematical sciences. As the inquiry into the possibility of the mathematical sciences led Kant to a critique of the understanding, so the inquiry into the possibility of the biological sciences has led Bergson to a critique of intuition. Bergson has himself told us that he considers the greatest, and perhaps the only permanent, contribution of Kant to philosophy is his discovery of the only conditions on which a metaphysic is possible; but he added that it is not possible. It was because for Kant all science was mathematical, and because, as he clearly demonstrated, mathematics is valid only for phenomena and does not apply to things in themselves, that he was led to this negative conclusion. In so far as scientific means mathematical, Bergson agrees with this conclusion, but not with the corollary that psychology and biology to be scientific must be mathematical. Bergson has raised the same question with regard to these sciences that Kant raised with regard to the validity of the mathematical sciences but with a much more fruitful result. "How are psychology and biology possible? Only because knowledge is not exhausted in mathematical analysis, because over against the discursive understanding stands the more immediate intuitive knowledge." It is possible to have knowledge that is not mathematical. knowledge which is no longer symbolic but immediate, and this knowledge is metaphysic. There are two important points about this view of metaphysic which Mr. Lindsay is careful to notice and which differentiate it from metaphysic as Kant understood the term and criticised it. It is a metaphysic that is empirical, however contradictory that may sound, and it is developing and incomplete. It is knowledge of the absolute, but the absolute is not the idea of the whole, nor of the completed task of knowledge.

Mr. Lindsay's criticism of Bergson is therefore primarily a study and analysis of Kant. Valuable as such a study is, and particularly acute and penetrating as this is, it has a distinct disadvantage for the student of Bergson, inasmuch as it is likely to give the idea that the direct influence of Kant on Bergson is much greater than it really is. Nothing is more striking in Bergson than the grasp of the philosophical problem as a whole that seems to lie behind all that he writes, and the sympathy with which he sees that problem expressing itself in the great thinkers, ancient and modern. What seems, however, to have given the special direction to his own thought is the profound dissatisfaction he felt with the philosophical

attempts of our own time to deal with the new sciences of biology and psychology. Disappointment with Herbert Spencer, not study of Kant, has led to the philosophy of creative evolution.

There are, every one will admit, some very remarkable similarities between the theories of Kant and those of Bergson, but the contrasts are more remarkable than the resemblances. Each holds that in a certain sense it is the understanding that makes nature, but according to Kant the understanding gives unity to a manifold, combines what is in itself discrete, forms experience as the senses receive it by means of synthetic judgments *a priori*. For Bergson on the contrary the understanding cuts out of the living flux the lines of our action, articulates reality according to the requirements, the practical necessities of our activity. Indeed when we look at it closely the resemblance is little more than is involved in the fact that each has proposed a theory of knowledge, each has seen that a theory of knowledge must depend on a metaphysic, and that whereas Kant thought metaphysic as a positive knowledge unattainable, Bergson finds it in a theory of life. It is difficult to imagine that direct study of Kant, or that any direction indicated by Kant could have led to that discovery, rather the contrary, for the whole effect of the Kantian criticism is to emphasise the mathematical character of all science, notwithstanding the relativity of its validity, that is to say its limitation to phenomena.

The use of the Kantian terminology seems also rather to obscure than to elucidate the true direction of Bergson's thought. Thus Mr. Lindsay's second chapter is entitled "Exposition of Antinomies". The questions there treated are theories of the relation of quantity and quality, of the relation of mind and body, and of the mechanistic and teleological explanations of evolution, and they fall under three divisions, each dealing with the main problem of one of Bergson's three chief works, and described as a criticism. Now these questions are not 'antinomies' in the sense that Kant used the term and the method of their treatment is not 'criticism' in the strictly Kantian meaning of the word. An antinomy is a logical contradiction between two principles, both of which must be accepted, or between two conclusions, both drawn from premisses that must be allowed objective validity. An antinomy in Kant cannot be resolved but may be transcended. Kant held that there are certain objects of the reason concerning which contradictory propositions can be maintained, and that therefore speculative knowledge of them is impossible, but they cannot be denied for they are affirmed by the practical reason. For Kant, therefore, there are antinomies. For Hegel and Mr. Bradley there are antinomies everywhere, they are involved in the nature of discursive thought. But for Bergson there are no antinomies. We are placed at a point of view at which antinomies do not arise, and which itself explains the illusion that gives rise to them.

It is this point of view that is the one thing necessary for the

apprehension of Bergson's theory. Undoubtedly there is a very great problem and a very difficult problem in the relation of space and time in Bergson's exposition, and it is quite true that space is sometimes presented to us as having a reality distinct from the reality of time, at other times as a schema involved in the intellectual view of reality. It does at times seem that Bergson is affirming two spheres of reality,—consciousness where change and movement and quality are real, and space where only the simultaneous and the quantitative exist. At times he seems to be affirming the reality of the objects of experience with all the simple directness of a natural realist, at other times his theory seems indistinguishable from idealism. But this is due to the difficulty of expressing a philosophical theory in language, for language is only an intellectual instrument. What Bergson has done is to give us a point of view which supersedes the distinction out of which the theories of idealism and realism arise. It is either this or it is nothing. It is not a reconciliation of idealism and realism. Mr. Lindsay notwithstanding his thorough appreciation of the characteristic doctrines of Bergson yet presents them as dualistic conceptions and asks whether they are a rigid dualism? How are time and space reconciled? He can find no satisfactory solution. He admits that psychical facts are not external to one another and spatial, but interpenetrating, that the relation of mind and body must be expressed in terms of time not in terms of space, that in the sciences of life spatial terms are misleading and confusing and so also are scientific methods based on spatial experience, but over against these facts are the mathematical sciences which deal with a spatial reality that seems to him ultimately irreducible to the psychical. This at least is the impression that the chapter on "Space, Time and Motion" leaves on us. The only indication of possible reconciliation that he can find is the discovery that even in the spatial sphere non-mathematical methods are essential to a full understanding of any reality. Now acute and penetrating as his criticism is, and ably as he has exposed the difficulty, he has given no indication of the direction in which Bergson has sought the solution nor of the nature of the solution he has proposed. For Bergson, physics is simply psychics inverted. What we have is not two spheres of reality, but two processes opposite in their direction. These two processes are inverse directions of a movement that is one and identical. If the movement is "spirituality" the simple interruption of it gives the inversion of it that is "materiality". The whole argument may be read in the third chapter of *Creative Evolution* and is conclusive so far as any question of ultimate dualism is concerned. We cannot think of reality, as Bergson conceives it, as two things. It is the essence of intellectuality to present all reality as spatial, but this spatial reality is not presented as a separate thing from another kind of reality represented as temporal. Time itself is represented intel-

lectually as space. True duration is not outside nor inside of space (such a conception would be itself spatial) ; it is reality. Even the ultimate dualism of being and nothing is unthinkable in regard to it, for "nothing" is a pseudo-idea. The difficulty then that there undoubtedly is in Bergson's conception of space is not the difficulty of dualism, not the difficulty of reconciling two opposite principles, each of whose claim to reality we must recognise—in its final analysis space is simultaneity and simultaneity is a temporal term—it is to show how a principle so ultimate that it seems to underlie and be the ground of the intellectual view of things is attached to and an essential part of that intellectual view. A space that should prove actually irreducible to time would be a negation of the very principle of Bergson's philosophy.

It is when Mr. Lindsay leaves Kant behind that we get the most valuable and helpful criticism. This is especially the case in the chapter on "Matter and Memory" in which we are given a clear and forcible exposition of the argument of this most difficult of Bergson's three books. And it is curious that though it is here, if anywhere, that we may find the appearance of a dualism, it is here that Mr. Lindsay is most clear in expounding the principle that reality is the flux and that space, though given in pure perception, is not a reality in its own right. "The present is not a simultaneous block. It is itself a series of actions. It itself involves duration. In describing it as action, we imply that its reality is change. There is no actual instantaneous present" (p. 184). Bergson's analysis of perception with the unbending realism it involves is very ably expounded. Perception is an instrument of selection, it is not constructive. Mr. Lindsay hardly, we think, expresses the full force of the realism when he says that the difference between the world as it is and the world as it is at any moment perceived is a difference of degree not of kind. There is no difference at all either of kind or of degree in what is perceived, but perception being a selection is therefore a limitation. Mr. Lindsay expresses it very well in another connexion when he says "what we perceive is not something other than reality, but it is less than all reality" (p. 197).

Mr. Lindsay follows his account of perception with a discussion of the nature of error, a subject of peculiar interest in the theory of Bergson, because in a certain way error may be said to occupy a definite position in his philosophy. We might almost say that it has a function. The intellect distorts reality, introduces discontinuity into the continuous, represents the flowing as static, in order to serve the necessities of action. But how can there be a false perception if the perceived world is the real world? This is the difficulty of all realistic accounts of perception. The answer is that a false perception is a false anticipation. Pure perception is theoretical only, actual perception is overlaid with memories and anticipations. It is in the interpretations that these give rise to that

what we call error in the narrow sense lies. The larger question is discussed in an examination of Bergson's doctrine of the relation of consciousness and action.

There is a note of Mr. Lindsay's (p. 84) on Bergson's use of the word "image" in the first chapter of "Matter and Memory" to which it is important to call attention, for the choice of this word seems to have caused very general surprise, and to have given rise to some misapprehension. Waiving all preconceived theories, and describing facts as we find them, Bergson calls these facts "images". It is unfortunate that Mr. Lindsay does not seem to have noticed, or at any rate has not called the reader's attention to the fact, that Bergson wrote a new introduction to the English translation expressly to explain his use of this word. The omission seems to have misled Mr. Lindsay into supposing that Bergson was describing what the plain man means, or thinks he means, by the facts, and in the language that the plain man would himself use to describe them, and so Mr. Lindsay uses the words "things" and "objects". But quite clearly this is not Bergson's purpose. His intention is to give a description of the facts that philosophers would accept, to whatever school they belong, whether they are realists or idealists. He uses the word "image" in the same sense in which Locke used the word "idea," to express the simple content of consciousness. The word "image" is probably as unfortunate as was Locke's word "idea" and for the same reason. But the difficulty, in the original as well as in the translation, is to suggest any word that is not open to equal or greater objection, probably there is no word in ordinary use that can be used in this non-committal sense. At all events, if the word "image" is itself ambiguous there can be no doubt as to Bergson's meaning for anyone who will first read his introduction.

In his final chapter entitled "Intelligence and Intuition," Mr. Lindsay has given us perhaps the clearest account that has yet been written of the exact meaning of intuition and of the part assigned to it by Bergson as a philosophical method. It is a very great service to philosophy that this doctrine should be presented without the vagueness that seems naturally to cling to any principle that claims to transcend the intellect. Mr. Lindsay also deals with some of the strongest objections that have been urged against Bergson's theory of the practical nature of the intellect, and in particular with the objection, almost a protest, by Prof. Bosanquet in a paper read to the Aristotelian Society (*Proceedings*, vol. xi.) against the account of Induction in *Creative Evolution*, the statement that induction rests on the principle of identity, and that the function of the intellect is to bind like to like. Prof. Bosanquet urges against this that the intellect implies a process of active thought and insight, that what we apprehend in induction is not a simple identity but a real universal, and that it implies insight into the real concrete unity of the individual case. Mr. Lindsay replies to this objection by call-

ing attention to the distinction that Bergson has drawn between the application of a tool and its invention. The intellect is seen both in the invention and in the using of the tool, but while the one is mechanical the other is not. "Repetition and quantitative analysis are implied in the working of inductive methods in science, and if Bergson's account seems to neglect other elements, it is because he is concerned with intellect as opposed to intuition, and with the way in which the mathematical implications of the intellect dominate scientific conceptions of causality. Working out of causal relations would be impossible were the causal relations not apprehended by methods other than those which guide their application."

H. WILDON CARR.

Pragmatism and its Critics. By ADDISON WEBSTER MOORE, Ph.D., Professor of Philosophy in the University of Chicago. [University of Chicago Press.]

PROF. MOORE's book gives what has long been wanted, a simple and straightforward account of the theories of the 'Chicago' school, of which Prof. Dewey (to whom the work is dedicated) was the founder. Prof. Dewey himself is often very difficult reading, and it is therefore a godsend to receive a small volume, written in a clear and interesting style by one of his most talented disciples, which is devoted to the elucidation of the 'Deweyite' philosophy.

The most important section of the book is the first five chapters which reproduce in substance a lecture-course given by Prof. Moore at Chicago in 1908. The groundwork of his doctrine is contained here, and the remaining chapters are composed of replies to critics and developments of various aspects of Chicagoan pragmatism, including a brief but interesting study of its ethical bearings (ch. xii.).

Prof. Moore gives a general definition of his attitude at the beginning of his first lecture, where he lays it down that "all thinking—that is reflective, deliberate thinking—is a mode of conduct. And by 'conduct' the pragmatist means action which is seeking to maintain and develop that which is 'satisfying' and 'valuable,' or to get rid of that which is dissatisfying and worthless" (p. 4). This does not mean that philosophy is reduced to "a philistine opportunism" (p. 10), it only insists that abstract cogitation shall in the end make a connexion with the world of ordinary life. "It freely concedes the 'impersonal' character of the scientist's work. But, again, it is with the understanding that this is only an immediate impersonalism for the sake of a larger personalism in the end. Like the impersonalism of the just judge, it takes the impersonal standpoint in order the better to serve all persons" (p. 11). Thinking is thus a means to the satisfaction of human instincts, not an independent instinct aiming at a gratification of its own. This, the rival view of Intellectualism, the notion that thought is "merely the expres-

sion of the specific and independent instinct to know" (p. 13). Prof. Moore rejects as unworkable. "If we strip an idea of all its volitional, purposive character, it is difficult to see what we can mean by its truth or falsity. Imagine a cosmic stroke of paralysis that should reduce our activity to a mere stream of images; on what possible basis could we call some of these images 'true' and others false?" (p. 14).

Intellectualism, it is argued in lecture ii., was the work of Plato, who formulated his conception of an ideal world of immutable Reality in order to evade the individualistic psychology of the sophists, which threatened to make common knowledge impossible. This method of regarding knowledge outlived the classical epoch, and lasted into the Middle Ages, because just such a rigid doctrine was required by the Church, which had to act as school-mistress to ignorant barbarians. But none the less the theory is beset with hopeless difficulties. If reality is an absolute, complete, and enclosed system, then not only is it obvious that "if there were any possibility of thought being true, it would all have to be concentrated in a single idea or judgment" (p. 54), but as Bradley saw, even such an idea cannot be true, "for as an idea it must be different from the reality, and therefore false" (*ib.*); to be completely true, it would have "not merely [to] point at, or imitate, but . . . [to] be the whole of reality" (*ib.*). Neither will the device of "Degrees of Truth" help, for how are the degrees to be measured without access to the absolute standard? (p. 56). The time has come then for the pragmatic theory of truth which taking its cue from the Evolutionism of the nineteenth century (pp. 74-75), adopts a view of reality as in process of change, and treats thinking not as "a process of forming symbols of things" (p. 80), but as one in which "things pass into new interactions, and therefore new mutual modifications of each other".

We are here in presence of a remarkably clever and ingenious attempt to outflank the old and tiresome epistemological problem, "How can a thought which claims truth be known to correspond with a reality external to thought?" There is no direct answer to this difficulty, and to maintain that there is any to be found in terms of the "correspondence theory" is a mere sophism. None the less if scepticism is to be avoided, some means of meeting the objection must be discovered, and this has been done by ordinary pedestrian Pragmatism, as the present writer understands it, in three ways.

(1) By bringing out the distinction between a correspondence within experience, which presents no difficulty, and one which transcends it. (2) By showing on analysis that a number of 'truths' hitherto thought to involve correspondence, really only involve a manipulation and classification of the data of experience, as in the case of many scientific laws, and conceivably also in such notions as those of "substance" or "matter". (3) By advising that where a transcendent correspondence is ineluctable, the truth of judgments

which assert it should in practice be measured by their fruitful consequences within experience.

Now it is just on this last point that Deweyism seems to wish to improve. Inasmuch as ordinary pragmatism is left with an indirect reply, and a risk of error, Prof. Moore endeavours to eliminate the conception of 'correspondence' or 'representation' *in toto* from his theory of ideas, and to treat the whole problem in terms of activity. Building upon the facts that in actual life ideas are always sought in response to some purpose, and always issue in some course of action, he proposes to treat the part played by the idea itself in terms of pure activity (pp. 81-85). Ideation is simply the making of a change in reality. Thinking is the beginning of an operation upon an object which is continued by further action upon it resulting from the process of thought (pp. 90-96). 'Truth' or 'falsehood' in an idea is just its success or failure to make *satisfying* changes in reality.

That is the theory in brief, sublimely audacious. It does not seem to me, however, that it will work, and I will shortly state the objections to it. Granting fully that 'ideas' are part of our schemes of action, and that their practical consequences are the test of their truth which we have to use, it seems undeniable that in a number of cases there is a moment in the process where the idea claims to correspond with an existing reality, a claim which would be defeated if it did not. Its intention just then is precisely not to change its object but to reflect it. It is purposive, but its purpose is at that moment just to be representative. This no doubt is not its ultimate end. It seeks to locate its object in order to operate upon it, but such preliminary "photographing" is a necessary step in its plan of action. This objection is identical with that which Prof. Moore calls the objection raised by his "Neo-Realistic" critics (p. 89). It seems to me, however, that Prof. Moore fails to take up a consistent position in regard to it. Thus on p. 80, when it is suggested that in the judgment 'This ache is a tooth-ache' we are after all "just finding out what the pain is," he replies that "it is insignificant that we take the view of what it 'is'—that we should make the is-ness consist in part in its connexions with other things" (p. 81), apparently admitting the objection, though treating it as trivial. And again on p. 212 answering Prof. Perry he concedes that "of course the idea cannot lead to a new experience, unless the material for the experience exists". Thus "establishing a correspondence between idea and fact" seems to re-appear under the new title "discovering material upon which to effect an operation". To speak of first knowing a thing and then acting upon it implies to Prof. Moore "that the line between a thing and its consequences can be drawn ontologically and existentially and is a fixed one" (p. 104). When the Realist urges that "objects known are not 'essentially' modified by the act of knowing" (p. 217), Prof. Moore asks, "If the alteration does not begin in the knowing process, where does it

begin? . . . If I am hungry and bethink me of a sandwich on the sideboard, and if I say that the act of thinking does not essentially modify the sandwich, where does the essential modification begin? When I reach for it? When I touch it? At the first bite or the second?" (p. 218). This seems to me an endeavour to reduce knowing to terms of physical movement and impact, which ignores the very meaning of thought. The judgment "There is a sandwich on the sideboard" prescind in intention from being interpreted as a change made in the sandwich. "To know" is as distinct from 'changing' as 'reaching' is from 'biting'. This may sound dogmatic, but it seems to me we have reached an ultimate mental attitude which cannot be defined. The attitude may be a mistake, but if it is adopted it cannot be equated with a totally different one, *viz.*, that of operating on a thing. The only way I can approximate to Prof. Moore's view is by putting the case in this way. Granted that knowing is an act, call it, if you like, a change made in an object. Are there not cases in which this act, or change, consists simply in the idea endeavouring to represent or mirror its object? What else can be meant by Prof. Moore's own doctrine that material for the change made by knowing must pre-exist? To discover this material do we not need to represent it in idea? Prof. Moore denies this. In one place he says that at this stage the relation between idea and object is analogous to that between hunger and food, one of stimulus and response (p. 214). This seems to me entirely misleading. If a physical metaphor must be used it resembles much more the relation between a camera and the scene it photographs.

On p. 107 Prof. Moore tries to eliminate the idea of 'representation' in thought by the following explanation: "Knowledge is the beginning of new inter-actions. . . . But the beginning of a new inter-action is always to some extent ambiguous and confused. The first stage of new activity, therefore, is occupied with getting rid of this confusion, and this process the pragmatist calls thinking." The meaning of the judgment "The South Pole exists" would seem then to be that a confusion in my thought is cleared up, this confusion of my thought being yet at the same time a property of the real object, the South Pole. Now it appears obvious that, on the one hand, in this judgment I do not mean that I manipulate the South Pole,¹ and equally obvious that to explain the judgment in terms of inter-action omits its essence, *viz.*, the assertion that the South Pole exists, an act which is *toto genere* distinct from changing the South Pole. Really, if we are not allowed to treat knowing as in this sense a unique activity, we might as well demand to have 'changing' reduced to 'eating' or some other disparate mode of conduct.

¹ If I 'inter-act' with it in my judgment, that is a formal statement. The mode of inter-action is *sui generis*, *viz.*, judging, just as the mode of inter-action implied in reaching it in a boat is *sui generis* and irreducible.

The Chicago Pragmatists have been accused of solipsism precisely because they have sought thus to eliminate the 'transcendent' element in knowing and to explain the cognitive function entirely in terms of the knower's experience. Who does not see, however, that when we assert the existence of minds other than our own, our judgment deals essentially with what lies beyond our own experience and never can enter into it? We may have to accept its consequences in that sphere as a *test* of its truth, but such consequences do not *constitute* its truth. The dualism may be puzzling but it cannot be eliminated. Prof. Moore's attempt in chapter x. to evade the whole problem by asserting that 'Solipsism' is discredited by psychology and science is a sheer paralogism. We cannot base pragmatism or any other theory of knowledge on 'science'. It is science itself which stands at the bar.

Suppose a man enters the gloom of the Chamber of Horrors at Mme. Tussaud's waxworks. He sees around him rows of figures. Suddenly he starts at observing one of them move his head. "It's a real man," he declares after a little internal debate. But then the monotonous turning of the head perturbs him again. He revises his opinion. "It is a figure with a clock-work head after all," he concludes. Suddenly the figure turns and walks towards him laughing. "Why," he cries, "it's my friend Smith trying to frighten me with one of his practical jokes!" Now can it be seriously maintained that what happened was that the judger twice turned a waxwork into a man and *vice versa*? Only if 'man' meant nothing but a phenomenon of his own experience, *i.e.* if he were a Solipsist. But taking man in its proper sense must we not say that the object of his judgments, true and false, was *really all the time* a man and that his last judgment was taken as true because it seemed to correspond to this fact? The 'Deweyite' theory, if I understand it, explaining everything in terms of change experienced by the judger and dismissing altogether the ideas of 'correspondence,' 'representation,' or 'transcendence of the object,' must ultimately resort to the other explanation suggested above, an evident *reductio ad absurdum*.

I have examined Prof. Moore's views thus fully in order to draw attention to one of the cleverest and subtlest theories of knowledge which has ever been evolved in philosophy, and also in the hope that some further explanation may be forthcoming from their author to show more precisely how far he identifies the contents of private consciousnesses with the world of real objects. The familiar 'Deweyite' disclaimer, 'We do not believe in private consciousnesses,' can hardly be accepted as an *a priori* solution of the difficulty. Inasmuch as it is possible actually to doubt whether experiences other than my own exist, the logician must show how he arrived at his disbelief in the privacy of consciousness. I think it will be hard to explain this judgment in the familiar 'Deweyite' terminology.

D. L. MURRAY.

Some Problems of Philosophy: A Beginning of an Introduction to Philosophy. By WILLIAM JAMES. Longmans, Green & Co., New York and London, 1911. Pp. xii, 237.

ON the far-distant day when the Academic Spirit comes up for the Last Judgment and the Recording Angel unrolls the long list of the stupidities and crimes whereby it has wrought incalculable evil to mankind, mention will no doubt be made also of its misdeed in keeping the spirit of William James so tightly tied down in the teacher's treadmill that he was never given the chance of enriching human life by a complete exposition of his philosophy, perfected in matter and in form, and worthy of his unique endowments. As it is, the writings of James express his total personality only in fragments, and the latter has to be reconstructed by a 'synoptic' imagination which is rare, especially among professors. This tantalisingly unfinished 'beginning of an introduction to philosophy' forms one such fragment, not the least precious, though, alas, the last. Not that, even if it could have been completed, it would have been *more* than a fragment, more than an adumbration of the total vision of the world as it was revealed to the soul of William James. For it too belongs to the marvellous series of 'popular' works, in which James has shown, as an example for all time, that it is possible for philosophy to be profound without pedantry, to interest without debauching, to penetrate directly to the heart and mind of all live thinking without commending itself to the vices of the professionals by cultivating an oracular obscurity and enwrapping itself in the pretentious trappings of technicality.

Of course, his professorial colleagues have always found it difficult to conceal their dislike of such matchless popularity. They have preferred to believe that James wrote as he did, because he could not write otherwise. They have never given him credit for his missionary zeal to extend the borders and to augment the powers of philosophy, for his burning faith in the spiritual value and educational function of philosophic speculation. Now this was not at all intelligent of them. For philosophy, as they conceived it, was neither easy nor attractive nor directly useful. It was not even valuable as mental training: for to convince their students by long-winded disquisitions that the unintelligible exists but that ordinary mortals have no head for it, is neither to improve human thinking nor to sharpen human appetite for knowledge. Consequently they seemed to James to be labouring strenuously at the destruction of their subject; which indeed had already lost the protection it formerly enjoyed, everywhere except at Oxford, where numbers of classical scholars are still hired to study a little philosophy, in order that they may know how to avoid it for ever after. Philosophers of all schools, therefore, should have been grateful to James not only for awakening widespread interest in his new philosophy, but also for turning the eye of philosophy towards science and life, and teaching its tongue to speak with articulate eloquence.

James therefore had been writing what in a sense were introductions to philosophy ever since he completed his great *Psychology*, and the present volume is but a continuation of the series. Its special significance naturally consists in the new points and new emphases which show the direction his mind was travelling. As such novelties may be mentioned the treatment of the problem of Being in chapter iii., which shows that all philosophising must take Being as a datum, and the fascinating chapters which follow on 'percept and concept,' which show how and why we carve the "aboriginal sensible muchness" into a conceptual order, which can be substituted for the perceptual, and is idolised by the rationalistic temper. Here James is very emphatic that the perceptual order is a real *order*, the continuity of which has a value no conceptualising can ever supersede or reproduce, and is fully conscious that he has completely outflanked Kant's *disconnected* manifold, and the apriorism which was designed to cure it (p. 51 n.), and only engenders insoluble puzzles (pp. 85-90). The same charge of ultimately *irrationalising* the facts is brought against monism in the chapters on the One and the Many (ch. vii.-viii.), which are the more effective for their studious fairness. Still the vicious verbalism of inferring the unity of experience from our application to it of the word 'universe,' and its scientific inadequacy as a substitute for specific investigation of the sorts of ways in which the world is one and continuous and discrete and many, and the psychological nature of the illusion which makes any sort of oneness seem valuable, are well brought out. The final upshot is that no monism can escape from Eleaticism and the denial of freedom, change, and novelty. The problem of Novelty is next treated, probably for the first time in philosophy *eo nomine*, though with great affinity with Bergson, in chapters x.-xiii., first in relation to the conceptual abstraction from the perceptual "effervescence of novelty all the time," then in relation to the infinite, where the logistician's 'new' definition of infinity and of transfinite number comes in for some penetrating criticism, and lastly in relation to the repudiation of the direct experience of agency by the theory of causation propounded by Hume and accepted in its essentials by Kant. The conclusion is that "in our personal experience we are witnessing what is really the essential process of creation" (pp. 214-15). The book concludes with an appendix on Faith and the Right to Believe, which distinguishes in the most explicit way between the *will* to believe, by which our faith-tendencies build up a "faith-ladder," and the *right* to act on probabilities, which the necessities of life confer upon us. There is, however, nothing new in this, as the distinction was from the first affirmed in the *Will to Believe* (p. 29). But as the whole allegation that James had granted every one the right to believe whatever he pleased has all along been a figment of bias and a will to believe in one's prejudices, it seems quixotic to hope that even the plainest speaking can correct the errors of those whose will is certainly not to believe

the account of the faith-function in authentic pragmatism. The dedication of the book to the memory of "the great Renouvier" signally attests another fact which the vulgar derivation of Pragmatism from the national American character finds it convenient to ignore, *viz.*, that the philosophic influence which gave the decisive direction to James's thinking was not Anglo-Saxon and Teutonic at all, but Latin and, more particularly, French (*cf.* No. 79, pp. 422-423).

From this account of its aims and contents it may be gathered how far the last work of the great American thinker towers above ordinary criticism, but it is perhaps expedient to add a word of explanation concerning what some will no doubt treat as an inconsistency. There seem to be in it two conceptions of the function of the concept. In general, concepts are conceived as valuable instruments in the manipulation of our experience. But occasionally we hear that "properly speaking concepts are post-mortem preparations sufficient only for retrospective understanding" (p. 99). Correspondingly, though percepts are usually "singulars that change incessantly and never return exactly as they were before" (p. 98), occasionally a hint is dropped that "the cuts we make are purely ideal," and that it is our concepts that 'decompose' the 'passing pulses' of our life and 'abstract and isolate its elements' (pp. 108-10).

The explanation, of course, is that James is thinking sometimes of the conventional or intellectualist accounts of these cognitive processes, sometimes of the real functions. He knew that it is equally untrue that 'concepts' are fixed and that 'percepts' are mere particulars; but he did not think it possible in an introductory book completely to set aside the traditional phraseology and to start from the fully concrete, immediately experienced, meaning-attitude, and to show how 'percepts' and 'concepts' both grow out of this. As he wrote to me as lately as 4th May, 1910, "I have caught the meaning of the fluidity of concepts long since: also I have always known that percepts (in the plural) are just as much artefacts as any concept is". But he realised also that, to state the facts adequately, there would be needed a new logic that would start by recognising every thought as an act of responsible choice and study its meaning while it is actually alive, and not after it has been distilled into a form of words. To what now passes as 'logic' James felt so strong a repugnance that he did not shrink from describing himself as "almost blind logically" (p. 183). But his blindness was that of the true philosopher who after enjoying the vision of true reality has to descend again into the Cave and contend with monstrous shadows in the gloom.

F. C. S. SCHILLER.

VII.—NEW BOOKS.

The Development of Religion: A Study in Anthropology and Social Psychology. By IRVING KING. New York: The Macmillan Co., 1910. Pp. xxiv, 371. Price \$1.75.

IN an apologetic preface, Dr. King informs us that the chapters which make up his book have been written at irregular intervals during the past eight years; that he is conscious of a change, during this period, in his interest and point of view; that the discussions here offered to the public are incompletely worked out; and that a number of relevant topics have been omitted. Nevertheless, he has a definite doctrine to set forth, and the reader need not be discouraged. It is impossible, in the present state of social psychology, to treat of the development of religion in more than a tentative way; and if the writer's argument shows lacunæ, and occasional discrepancies, these logical flaws are themselves a guarantee of honest thinking, and may stimulate his public to think further on their own behalf.

The method of the introductory chapters is that of a gradual narrowing of definition. Dr. King argues, and argues soundly, that every phase of the religious experience is legitimate material for the psychologist. Generically, it is a mode of consciousness; and its differentia lies on the side of functions served, rather than on that of mental contents; there is a constant flux of ordinary mental states into and out of the sphere of the religious consciousness. But 'function' is, again, a generic term; and the differentia of the functions grouped as religious is that they are 'valuational' [why not 'appreciative' ?]; the psychology of religion will, therefore, be largely taken up with the natural history, the genetic classification, and the explanation of the consciousness of value. But generically, once more, religion does not differ from many other consciousnesses which may also be described as valuational; so that the problem of the psychology of religion is, in the last resort, to discover the differentia which constitutes value a religious value.

No one will dispute the first step of this process of reduction: we may accordingly turn at once to the psychology of valuation. There is no religious sense, or religious instinct, the author declares; but there is a religious attitude; religion is an appreciative reaction, involving consciousness, upon the environmental situation. The appreciative reaction, now, is always a delayed reaction; and the complication of activity that means delay, and therefore brings consciousness into function (pp. 53, 59, 66, etc.), may be due to various causes: to mere chance associations, to conscious effort for the adjustment of means to ends, to the associative substitution of reduced and imitative reactions for a direct reaction which is at the time impossible, to the expression of the impulse of play (pp. 54 ff.). It is to be noted that the complication is, throughout, a complication of activity; value is marked off from other mental functions by its dependence on the development of active processes. Hence the

overt practices—rituals, ceremonies—which certain authorities banish to the domain of ethnology are, in reality, of great psychological import; they are, in a very genuine sense, the causers and sustainers of the subjective attitudes from which they are usually supposed to proceed.

Here, no doubt, there is room for criticism; but the writer was obliged to lay his psychological foundations somewhat arbitrarily, or there would have been no superstructure at all. Let us, then, take the valuational consciousness for granted. Two questions at once arise: those of the genesis of the specifically religious attitude, and of the origin of religious practices and ceremonials.

Religious belief is always the evaluation of some social activity; primitive man's highest values are distinctly social matters; the social organisation is practically the universe of primitive life; the values of the group are ultimate and universal. All permanent notions of value are differentiated from the matrix of the social group, and the religious values express the problems of group-life "in their most ultimate form" (p. 84). We are thus on the road to a differentia of valuation as religious, though the author still speaks in general terms. His position is supported by a number of illustrations, which, however, are not always happily chosen; the hunting-practices of the Greenland Eskimo ought, on his own showing, to be elaborately religious in character (pp. 53, 73, 82 f., 101, 118). The second question is answered, again in general terms, by the statement that some of the more fixed activities of a primitive group are the first manifestations of religion, furnishing the objective conditions for the appearance of the mental attitude; every social group has its practical problems, its sports, its festive occasions, which as social are productive of a consciousness of permanent value; and all gradations of social action may, in fact, be traced, from the purely playful and practical, to the explicitly religious.

The reader now expects a further reduction. Value has been exchanged for permanent value, and this has been equated to social value; what, then, is the differentia of social that constitute it religious? Instead of attacking this problem, the author turns, with a wrench of which he is himself keenly conscious (p. 132), to a consideration of the 'mysterious power' which fills the background of the primitive *Weltanschauung*. There is a very widespread belief in some power or potency, which lies behind all natural phenomena, though the power is so vaguely conceived that it may properly be defined neither as personal agency nor as mechanical principle. This notion of an impersonal potency, mysteriously operative throughout the world, is a natural result of primitive man's contact with his environment; once acquired, from some striking object or situation, it gradually assumes the function of a general explanatory concept, determines the frame of mind in which new situations and experiences are approached. It is not in itself a religious idea, and need not be related in any peculiar way to the development of religion; as a matter of fact, it has played a very important part in that development. [So we may interpret the somewhat conflicting statements, pp. 133, 163, 178, 199, 242, 262.]

The connexion of *Weltanschauung* and religion is worked out in two chapters, which deal respectively with Magic and Religion, and with the Development of Deistic Ideas. Magic and religion are differentiations from a primitive substratum of crude associations and spontaneous reactions; magic is relatively individualistic and secret, religion is fundamentally social and public, in its methods and interests. The worker in magic deals, moreover, with some mysterious power; magic thus has to do with the private and sometimes nefarious use of the cosmic potency. What of religion? We must remember that social values can hardly be

perpetuated save in social terms; the 'gods' represent the tendency of man's reactions to be extensions of the reactions evolved through social intercourse. The first, germinal deities were the objects or persons supposed to have 'power'; here, in an associative rather than a personifying process, is the connexion of the cosmic potency with religion. Henceforth, the continued reactions of the social group upon the fundamental values of the group-life tend, inevitably, to cast these values into personal moulds; we pass from the culture-hero and the all-father to the true deity. We pass, that is, in the abstract; the body or filling-in of the story is in large measure due to the play of fancy, as stimulated by human associations.

An interposed chapter discusses the application of the concept of evolution to the religious attitude. Stages of culture may be arranged in serial order; but the arrangement is no proof of serial evolution; types emerge, rather, by mutation, under stress of concrete social problems. There is evidence of orthogenesis, of the determination of direction of change by the nature of previous variation, in all social processes. The method whereby the religious attitude is transmitted is that of social heredity. Its elaboration in successive generations depends upon the growth of individuality.

We have seen that the union of the belief in a cosmic potency with the tendency to express social values in social terms has led to the idea of deity as a personal, conscious agent. Dr. King next proceeds to the problem of monotheism, and of ethical conceptions of God. He shows that the notion of one supreme god may appear, under favourable conditions, in relatively low types of religion, and may be absent, in default of these conditions, from more highly developed types. Thus, every distinguishing characteristic of the Jehovah of the Hebrew prophets may be traced to beliefs and appreciations normal to the general social *milieu* of the early Hebrews. The relation of religion and morals is discussed only in brief sample; we may, perhaps, expect a book upon the subject.

At this point, the argument takes another and a final turn; two crowded chapters discuss the relation of religion to mental pathology, and that of religious valuation to supernaturalism. Is there anything in the religious attitude which has tended to foster unusual mental and motor phenomena? Yes: first, the fact that religious values are to be appreciated rather than intellectually formulated; and, secondly, the associated idea of supernaturalism. (This idea, which should have appeared earlier in the book, is now briefly referred to primitive man's notion of the cosmic potency as thwarting or furthering his active interests. There follows an excursus on the 'subconscious,' with regard to which the writer takes up a colourless and non-committal attitude.) Have, then, the pathological elements contributed to the development of religion? Again, yes: they have fostered the growth of individuality, in a sense that has not destroyed the essential sociality of the religious attitude, but has rather worked out its intention. Finally, is the concept of supernaturalism necessary to the expression of the higher valuations? Probably, yes: in so far as the symbolism satisfies and helps, it represents a genuine aspect of reality, though the mode of expression can never be regarded as proving the validity of the attitude of mind behind it.

As we look back over the whole work, we realise that the author's procedure by genus and difference has failed him, on the formal side, while its failure has nevertheless led to a positive view of the religious consciousness. It is "absolutely impossible to give the religious attitude any definite delimitations" (p. 307). The problem is to trace the connexion between various 'religions' and the cultural matrix out of which

they have sprung; to note how, in certain environments and in the face of certain vital issues, a 'religious' type of attitude tends to develop in particular ways, its content and form varying with the external conditions; in a word, to show how the more important social activities produce a peculiar differentiation of consciousness which, when it has become explicit, may be recognised and marked off as 'religious' (p. 214). This is Dr. King's result, and it is a result to which, in the large, we may subscribe.

The book has an elaborately analytical table of contents, a selected bibliography, and a fairly full index. In no one of these places—amazing to relate—is reference made to Wundt's *Mythos and Religion*.

P. E. WINTER.

A First Book in Psychology. By MARY WHITON CALKINS. The Macmillan Company, 1910. Pp. xvi, 419. 8s. net.

According to Miss Calkins psychology is a science of the self as conscious. The self has at least four fundamental characters; it is (1) relatively persistent; (2) complex; (3) unique; and is (4) experienced as related to objects which are either personal or impersonal. A classification of these objects is attempted.

The actual work of the subject starts with the distinction between Perception and Imagination as experiences of the related self. There are three differences: in perceiving (1) I immediately realise my receptivity or passivity; (2) I realise reflectively the community of my perception with the experience of other selves; (3) I am related to an object which I regard as independent and external. Study of perception and imagination then proceeds to a consideration of its complexity alone, thereby leading to a review of the structural elements of consciousness or to the procedure of the average psychological text-book. It may be said generally that the references to the self and to the classification of objects only serve as formal or even literary introductions to the usual text of the science. Nothing appears to be achieved by the insistence on the self-aspect.

The same must be said of the doctrine of the structural elements of consciousness propounded by Miss Calkins. The question is not even once raised what a psychology can do with the huge heterogeneous mass of elements she distinguishes, except that they fuse. It is considered sufficient merely to enumerate what is apparently unanalysable. That falls into three classes: the sensational (all the qualities, brightness, loudness, etc., bigness, volume, etc.), the attributive (pleasure, displeasure, attention, consciousness of realness), the relational (consciousness of one or more than one, of more or less, of like or different, of the connected or opposed, etc.). The attributive elements are attached to sensational consciousness and the relational are subordinated to two other elemental experiences.

The view of McDougall is adopted that there are as many elemental qualities of pitch as there are distinguishable qualities in an octave. Distance or apartness is held to be the simplest form of complex spatial consciousness. It is not elemental, however, but is "made up of a consciousness of the two-ness or duality (of sense-objects or qualities) fused with a consciousness of intervening extensity" (p. 67). "When two points touch my skin, I not only perceive the pressure and the two-ness, but I imagine the extended pressure of an object stimulating the intervening extensity" (p. 69). "The consciousness of depth-form is not an elementary and unanalysable experience; rather, it is a consciousness of

two-dimensional form fused with a very complex but very vague consciousness of the bodily movements necessary for apprehension of the object" (p. 73). "Thus, the consciousness that the sky is over me includes a vague consciousness of my body floating upward, and the consciousness that the cake plate is in front of me includes the movement, or tendency to movement, of my arm toward the cake plate" (p. 76). In connexion with the illusions, Miss Calkins allows that the eye-movement theory in its extreme form is experimentally disproved by Stratton, Dodge, Judd and others (p. 340). Later (p. 346 f.) she points out that the notorious errors of localisation show that the motor theory is compatible with lack of an exact parallel between bodily movements and accurate localisations, and that it is possible "that in the developed localising consciousness of some subjects, visual images [of feet, face, or hair, or the imagination of certain parts of the ordinary environment] may have crowded out the motor consciousness".

In Recognition, Miss Calkins considers an essential character to be the emphasised persistence of the self. "The recognition of an object seems to include, when reflected on, the consciousness of sameness with a past thing, and the recognition of an event means the awareness of 'this event identical-with-something-past'" (p. 130). "The experience of the past may be roughly described as the consciousness of an irrevocable fact, linked in two directions with other facts" (p. 131).

Unlike Imagination, Thinking is not a "private" experience. One is conscious of sharing the experience with other thinking selves. "The relational experiences especially distinctive of conception are the experiences of generality. These are two (corresponding with the two sort of objects of conception): the consciousness of class, and the consciousness of 'anyness,' that is, of membership in a class" (p. 136). "Three important types of conception must be named. These are (1) verbal, the consciousness of a class (or member of a class) whose common character is a name; (2) relational . . . whose common character is a relation—say of order, opposition, or degree; (3) motor . . . whose common character consists in this, that each one of the class calls forth a similar bodily reaction. These descriptions are in terms of the object of conception" (p. 137). Psychologically the word or relation or bodily reaction has attached to it a consciousness of class or of "any". Verbal conception occurs in all abstract thinking. Concrete conception is in great part of the motor type.

Emotion is an intensely individualising experience, which, like perception, is receptive and passive. It is also characterised by the organic sensations which it includes. "Emotions are commonly grouped according to the varying relations of different selves to each other, and on the basis of the contrast between pleasantness and unpleasantness" (p. 175). Subheads are: without valuation of the other self; with valuation of the other self, who is stronger, equal to or weaker than oneself (with interchange of "other" and "one"). Impersonal emotions are egoistic or altruistic (which latter word means not related to another self, but absorbing), sensational or relational. The altruistic class includes aesthetic pleasure (sensational) and logical pleasure, sense of humour, etc. (relational). Aesthetic emotion is a consciousness always of the beautiful, never of the ugly; it is also attentive, "so that it is fair to conclude that sensational experiences are beautiful, if ever, when easily attended to" (p. 192). The beautiful is, thirdly, always an object of direct and immediate perception; "nothing can be beautiful which is not a direct and immediate object of sense-perception" (p. 194). Aesthetic pleasure, finally, is entirely disinterested; "the contrast between one self and other selves is all but vanished".

Volition differs from mere antecedent imagination in that it includes a certain realised anticipatoriness. This term is used to indicate "a complex experience, including at least three factors: (1) the consciousness of realness; (2) the consciousness of the future; and (3) an experience of linkage or connectedness—the consciousness of the dependence of the end upon the volition" (p. 222).

The above will probably suffice to illustrate Miss Calkins' analytic method, which seems to the reviewer rather jaunty and ineffective. It will doubtless be claimed that the results of such analysis have absolute truth-value, apart from their instrumental advantage. That may certainly be so, but one might expect some promise of simplification, something more than verbal knowledge to result from all these distinctions. Over against the elements selves also seem to stand apart, unwilling and embarrassed. The addition of objects makes a dispeaceful trinity.

The main text of the book, which embodies Miss Calkins' psychology, is written in an easy and rather allusive style. Frequent reference is made to the bodily conditions and accompaniments of mental states, even to those of thought. Many short discussions, outlines of the physiology of nerve and sense-organ, some problems of sensory psychology and grouped references are included in appendices, which form nearly one-third of the volume. There are also some twenty pages on abnormal psychology, seventy review questions, and an index.

HENRY J. WATT.

A Treatise on Electrical Theory and the Problem of the Universe. By G. W. DE TUNZELMANN, B.Sc. London: C. Griffin & Co., 1910. Pp. xxxi, 654.

This book is in many ways interesting as an able popularisation of recent scientific work; but the only chapter in it that calls for notice in these pages is the last one, entitled "The Place of Mind in the Universe" (pp. 446-505), and this is exasperating rather than interesting. It is embellished indeed with a miscellany of long and varied quotations from writers of distinction, but—*fehlt, leider! nur das geistige Band*. The author, it seems, was led to treat his final topic 'from the physical point of view' by a chance incursion into the region of so-called 'psychical research,' coupled with his acceptance of Blondlot's N rays as 'an observed fact' (App. R). By this short and easy method he was "led to the formulation of the theory of the universal mind which" he here seeks "to establish on a strictly observational basis". The start is not reassuring and the result does not belie it.

Following, as he supposes, in the steps of Sir Joseph Larmor, Mr. de Tunzelmann conceives three models of the universe—the mechanical, the molecular, and the mental. The first explicitly recognises only matter and energy: its essential basis is 'the central force system developed on the pattern of the Newtonian law of gravitation'. But a further mechanism is required 'for the transmission of the forces postulated in this first scheme,' and so we come to the molecular model and have to add ether to matter. But we soon find that matter, ether, and energy will not suffice. The principle of the dissipation of energy *practically* involves—shows it to be infinitely probable—that "our universe must, . . . in the absence of directive intelligence, have had a beginning and be tending towards an end," in other words cannot be a conservation system. So far so good. But now how, 'from the *physical point of view*,' can we obtain any assurance that a 'state of changeless death' will not, in fact, eventually ensue? Surely it is just the physical point of view that reveals its 'prac-

tical necessity,' and "the definite demonstration that the conclusion arrived at is a practical necessity of the known molecular constitution of matter" is actually provided for us in Appendix K from a paper by a very able physicist, Mr. J. H. Jeans.

It is further contended that the guidance which the mental model with its directive intelligence implies "may take place without any interference with or modification in" the mechanical and molecular models, and does in fact so take place (p. 453). But how then do we know that it takes place? We know it from what "is observed to be effected, on a relatively minute scale, by all living beings" (p. 454). In keeping with this the author refers "to the absolute line of demarcation . . . which is marked by the advent of life" in spite of the absolute continuity in [the] mechanical and molecular laws applicable to all matter, whether living or lifeless. He finds an analogous demarcation between man and brute in the fact of speech and what this implies, notwithstanding the continuity observed between the human and all other organisms (p. 487). In both cases, 'from the physical point of view' there is absolute continuity: for physiology—and presumably all biology—is expressly included in physics (p. 467). How then, we have again to ask, can the twofold discontinuity that mark the advent of life and reason, how can the guidance of the mechanism be ascertained, from the physical standpoint? *A propos* of naturalism, Prof. Sorley has said: "The completest account of the world as a whole which is possible is held [by it] to be the description of it in physical terms: the spiritual factor is held to be dependent, if not illusory". Having quoted this passage, Mr. de Tunzelmann continues, "it would be impossible to justify this statement in a few pages, but it is demonstrated with the most convincing logic and lucidity in the work referred to" (p. 489). If it is any comfort to our author we may fairly assure him that he *has* justified this statement far better than he thinks.

J. W.

Dogmatism and Evolution. By THEODORE DE LAGUNA, Ph.D., Professor of Philosophy in Bryn Mawr College, and GRACE ANDRUS DE LAGUNA, Ph.D. New York: Macmillan, 1910. Pp. iv, 255.

This is a work of distinct merit. The sympathy of the authors is in favour of what is permanent in Pragmatism, but is as firmly opposed to its extravagances. It deals with the present situation in a historical way, carrying the discussion of principles back to the old dogmatism which formed as a precipitate in the ebullition of the Renaissance. This is a proper undertaking, for Pragmatists, as a rule, do not like history.

The historical sketch is brief, but, in spite of its schematic form, is suggestive, independent and well adapted to its purpose. First, it is shown how the parallel tendencies, Empiricism and Rationalism, are based on dogmatic presuppositions which are fundamentally the same. In Rationalism, it takes the form of intuition, and then the immediate datum is a truth of Reason; in Empiricism, the basis of certainty lies in sensation. Both analyse experience into ultimate simples, universal truths of Reason and particulars of Sense-perception. The only difference is that in Rationalism, it is a conceptual absolute, in Empiricism a psychological absolute (p. 52). Their community of principle has its culminating proof in their theory of relations as external. In the second place, Dogmatism is followed by the 'critical' Revolution. But the authors are concerned to trace the dogmatic temper also in its criticisms, and not only in Kant but even up till the present time in Pragmatism. So we are reminded once more how Kant was the true child of his age,

notwithstanding his originality, and how rationalistic conceptions were more than a contingent form of expression and were partly congenital to his thought. It is true that Kant made a signal advance on his predecessors by accounting for contingency in the particular through the *a priori* forms of intuition and thought. But, on the other hand, the categories seem to have an independent content out of all relation to experience. I think, however, that Mr. de Laguna has forced his criticism somewhat on this point. It is not the categories that do the real business of Understanding but the Schemata, and therefore, so far as the *Analytic* is concerned, rationalistic concepts have only nominal interest for Kant. Mr. De Laguna evidently takes the view that Schemata are only intermediate psychological elements, but they are the real metaphysical factors in knowledge even for Kant, in spite of the psychological form of the Deduction. Certainly Kant believed at the same time in 'Platonic' forms of thought which have a meaning wholly independent of experience; but we must be clear that both the two positions occupied Kant's mind, and in the *Analytic* it is the former that holds the field. And further, Mr. De Laguna does not notice that universality in the formal sense of Rationalism gives way in the *Critique of Judgment* to a reflective or hypothetical mode of thought. It is the case, then, that in the end Kant sought to introduce contingency into the universal as he had formerly qualified the contingent particular with universality.

Next we come to Absolute Idealism, which gives complete expression to the new tendency inaugurated by Kant. In Hegel we seem to breathe a different atmosphere from that of Rationalism. Thought is no longer static but dynamic and dialectical. But it betrays a dogmatism of another kind. Like the rationalist, Hegel comes to regard Thought somewhat in the manner of a mechanical quantity. The concrete universal, notwithstanding its merits as an attempt to prove the elemental unity of Reality and Thought, has something of the *caput mortuum* about it. By anticipating history, it forecloses the issue.

Finally, the authors examine the principles of Pragmatism and judge that it is subject to the tradition which it so vehemently attacks. Yet it has indisputable merit as the first thorough appreciation of Darwinism as applied to logical theory. It takes its point of departure in Functional Psychology, Consciousness being instrumental and having only a survival-value. All ideas refer ultimately to modes of behaviour. No one will dispute that, genetically, Thought has a practical reference. But Pragmatism holds that the function of Thought is exhausted in its control of conduct. If, however, as is acknowledged, the practical reference may be indirect, the Pragmatist contention becomes quite pointless as a polemical statement. All ideas have a remote bearing on conduct, but it is so remote that the peculiar content of ideas has far more immediate reality than their practical import. The indirectness of Cognitive control over conduct "implies that the interrelations of concepts which mediate the ultimate, practical reference must have a character of rightness or wrongness in themselves" (p. 207).

A Textbook of Psychology. By EDWARD BRADFORD TITCHENER. The Macmillan Company, 1910. Pp. 303-558. 6s. net.

Every one familiar with previous textbooks by Prof. Titchener will find in this second volume continuous evidence of his lucidity and completeness of review. In spite of certain peculiarities, the book will surely be welcome to teacher and student. The views here expounded are substantially those of the recent volumes on Feeling and Attention and

on Thought-processes, which have already been brought to the notice of readers of *MIND*. Only a few points need therefore be mentioned.

The first two chapters, which deal with Spatial and with Temporal Perceptions, are prefaced by paragraphs upon the sensory attributes of extent and duration. Localisation is considered to be generally a corollary of these attributes. Spatial localisation; *e.g.*, is a necessary consequence of qualitative differences within the total bidimensional field and transition to tridimensional space is mediated by kinesthetic sensation: in the sense of touch by articular sensation, which is itself held to be spatial in character, and in vision by muscular sensation. For the spatial illusions the eye-movement theory is held to be the best. Of Wundt's theory that "space results from the fusion of quality and intensity," it is said (p. 338) that it leaves us with a mystery: "nowhere else, over the whole range of psychology, does the concurrence of attributes give rise to an absolutely new form of consciousness". "We cannot understand how, in this particular case, the new product should arise." And to some it may seem that Titchener's derivation of spatial localisation is just as irrational.

It is likewise difficult to reconcile the treatment of Recognition with the general sensationalistic position adopted. For Titchener acknowledges that recognition is possible in the absence of any associated idea whatsoever. Besides, so far as it goes, the evidence, he says, is also against organic complexes, so that recognition as such seems to be wholly a matter of feeling. "What, then, is this feeling? In experiments upon recognition it is variously reported as a glow of warmth, a sense of ownership, a feeling of intimacy, a sense of being at home, a feeling of ease, a comfortable feeling. It is a feeling in the narrower sense, pleasurable in its affective quality, diffusely organic in its sensory quality" (p. 408). But it may fairly be said, that the 2nd, 3rd and 4th of these equivalents are just other names for recognition, while of the others we may say: "We cannot understand how, in this particular case, the new product should arise".

The essential thing about perception, we are told on page 367, is meaning; and meaning is always context. On page 371, however, we find that the fourth point for consideration in the psychology of perception is that "meaning may lapse from consciousness, and conscious context may be replaced by an unconscious nervous set," or "meaning may be carried in terms of physiological organisation". It is difficult to reconcile these statements. Either meaning is not essential to perception, or meaning is not always context, or meaning is not always experience. The consistency of the following statement with a sensationalistic position also needs elucidation: "The presence of imagery does not necessarily imply the use of imagery; my mind may be full, *e.g.*, of visual images, and yet I may habitually mean and understand, think and remember, in other than visual terms" (p. 404). This is doubtless true; but surely when essential processes like meaning lapse, these useless processes might also subside. Some readers may feel disposed to think that Titchener has not done justice to meaning. Epiphenomenalism and sensationalism are not generally accepted views, and it is perhaps inadvisable to force them upon the student so vigorously as Titchener does. This is the more to be regretted, as the impartiality of the book in other regards would surely have made it universally welcome.

Paragraph 125 on the Genesis of Action is so obviously doctrinaire and unnecessary that it might well be omitted. It is hardly useful to raise for the beginner the problem of the first movement of the first moving organism. Moreover, such a term as "half-vital ancestry" only courts ridicule; while if the lowest organisms may have "lost the flicker

of mind that they at first possessed," there seems to be no reason to suppose they ever had any mind at all.

HENRY J. WATT.

The Cameralists: the Pioneers of German Social Policy. By ALBION W. SMALL. Cambridge: University Press, 1909. Pp. xxv, 606. Price 12s. net.

This work opens up a new field of study to English students of Political Philosophy and Economics. The Cameralists were a body of administrators, whose influence began to make itself felt as early as 1555. The chief representatives of the system were Osse, Obrecht, Seckendorff, Becher, Schröder, Gerhard, Rohr, Gasser, Dithmar, Zincke, Darjes, Justi and Sonnenfels. They can scarcely be described as writers who contributed to the development of the theory of the State, though in their work there is assumed a special standpoint with reference to the nature of the State and its functions. Granting this standpoint, it was their function to provide the means for realising the ideals of the ruler. In particular, they stood for efficiency of administration, and the most interesting and able portions of the book are those which show that a knowledge of the foundation laid by the Cameralists is necessary for the understanding of modern Germany. It is also important to notice that the writer of this history is far from accepting the traditional account of the Mercantilism of the Cameralists. This question arises through the steps recommended by Cameralistic writers for the raising of revenue, the increase of which was sought by the regulation and development of trade. Mr. Small shows that, when Adam Smith speaks of writers who thought of wealth as consisting of money or of the precious metals, the Cameralists should be excepted. It is true that they laid considerable stress on the advantages of the State being in possession of bullion, but Mr. Small contends that they were not concerned with an analysis of the nature of wealth, and he draws an ingenious distinction between Schröder's use of *Ueberfluss* and *bereitestes Vermögen*—the former corresponding in part to Adam Smith's term "Wealth" while it was with the latter that most Cameralists dealt. This distinction carries us a certain length, but by no means the whole way. Granting that the Cameralists aimed at increasing the "ready means" of the sovereign by the development of commerce, they must have had a conception of the nature of trade more or less implicit in their minds. While it may be true that much of what they say does not conform exactly to Adam Smith's description of the Mercantile System, if one turns to their works, much will be found which is in essence Mercantilism, indeed even ultra-Mercantilism. For instance, Becher not only opposed trade in foreign goods which could be produced at home, he even believed that it made for the destruction of the community, and he went the length of urging that importers of such goods should be treated "as the meanest criminals".

In a word the practical precept of the Cameralists was "Organise and yet again Organise". Their whole system of administration was directed towards what Adam Smith called the aim of "national power". As means to this end, the art of government and of fostering commerce became of importance. Thus Justi points to the increasing cost of war (he refers to the Seven Years' War, 1756-63), and adds that a people that wishes to be "militant" must also seek to be rich. But there was no other road to riches than through commerce. Sonnenfels followed up this thought by dwelling on the advantages of a colonial system, whereby the mother State "should have the preference over every other country in

drawing from the colonies those wants [*sic*] which it will either use itself or again export. And in general, whenever a decision must be made between foreigners and the colonists, the State will seek to secure the advantage of the latter"—sentences which connect themselves with certain problems of the present time.

W. R. SCOTT.

Kant and His Philosophical Revolution ("The World's Epoch Makers").

By Prof. R. M. WENLEY, D.Phil., D.Sc., Litt.D., LL.D. Edinburgh: T. & T. Clark, 1910. Pp. vii, 302.

Prof. Wenley has equipped himself for his work by extensive reading, and shows painstaking thoroughness in his treatment of Kant's biographical and literary history. If I remember rightly, Paulsen rejected the evidence in favour of Kant's Scottish parentage. Dr. Wenley hesitates to believe that Hans Kant, grandfather of the philosopher, was a Scot, but is quite prepared to find that Richard, Han's father, was one of the numerous Scottish emigrants who settled in East Prussia. It is a merit in this book that so much attention has been devoted to Kant's scientific studies, which are not so well known to the general reader. No one can be a constructive, systematic philosopher without a competent knowledge of Science; and if we are sometimes inclined to think that Kant is beating the air with meaningless language, it is good to recall his scientific achievements. But, as Dr. Wenley remarks, the philosophical interest was present to Kant throughout, the limits being hardly defined between Science and Philosophy in his time. Instructed in the doctrines of Rationalism, he was fortunate in having for a master Martin Knutzen, who showed himself capable of being a critic as well as a professed disciple of Wolff. Kant was thus initiated into the real world of Newton, and by his own speculative insight outstripped him in the application of his principles. In his great book, the *Natural History and Theory of the Heavens*, he explains the origin of the entire universe, and not simply the solar system, on mechanical principles.

Dr. Wenley enters with some minuteness into the historical setting of Kant's scientific work. But his style is unhappy, and when he comes to the doctrinal part it becomes still harder to be appreciative. I should not "let the cat out of the bag" in a serious book. But apart from style, there is no real attempt at sympathetic understanding of the author's meaning. I have read the great part of the work twice over to ensure a fair judgment, and though I have read many important books on Kant, I confess that I can hardly understand what Dr. Wenley has written. Were it not for the thoroughness he has shown in preparation, one would be forced to say that he is guilty of mental flippancy. He seems to have stood in his own way by taking too seriously the analytical form of Kant's exposition. Surely it is not correct to say that, in the *Analytic*, Kant assumes "that sense supplies definite objects which, in turn, understanding rationalises into groups". In a note to the first edition Kant explicitly claims superiority over former psychologists, because they believed that sense in its receptivity was able to unify impressions into objects (Hartenstein, iii., p. 579, *Nachträge aus der ersten Ausgabe*). Again, it is true that in the *Principles of Pure Understanding*, Kant "presents the inexpugnable unity of mind and sense," but I do not see how "the tortuous processes of the Schematism . . . become superfluous" (p. 194). We have only to remember that the proof in the *Analogy* turns wholly upon time, the all-important space-factor being only covertly acknowledged, and also that the schemata, in Kant's own words, are all of them "in someway relative to time" (Watson, p. 90).

When we put these two facts together, it is hard to see how Schematism disappears. What is Causality but the Schema of the Permanent in Time? And it is quite gratuitous to say that "the original separation between sense and the forms of conception, while it may hold for a *theory* of Knowledge, cannot be predicated of knowledge itself," and that, therefore, Schematism is superfluous (p. 198). It could only be in theory that Kant entertained the distinction, otherwise Knowledge would be impossible, and he should have had to ask the illicit question, Is Knowledge possible at all? Schematism is not nearly so unimportant as Dr. Wenley thinks, and is much more than a contingent psychological element in the theory of knowledge.

It is to be regretted that Dr. Wenley has not used the same care in writing as in preparation. The bibliographies which head the chapters are extremely valuable.

R. A. C. MACMILLAN.

The "Perceptive Problem" in the Aesthetic Appreciation of Simple Colour-Combinations. By EDWARD BULLOUGH. [From the Cambridge Psychological Laboratory.]

Object of experiments: (1) To find out to what extent "Perceptive Types" discovered in previous experiments with single colours, are traceable in the appreciation of colour-combinations. The types had been described as (a) *Objective*: These subjects characterised colours as "pure," "washy," "unusual," etc. (b) *Physiological*—colours described as "cheering," "depressing," "restful," etc. (c) *Character Type*—colours "friendly," "morbid," "refined," etc. (d) *Associative Type*—colours suggest objects and these associations affect the aesthetic judgment. All these types found among the forty subjects, Physiological and character types being much the most numerous. "Objective" attitude is regarded by author as extra-aesthetic. "Highest" type is the Character, then Physiological, Associative attitude being lowest from aesthetic point of view, though genetically it is a side development from the physiological, which is the "original and fundamental" attitude. Under unfavourable conditions a subject of a given type may revert to the next lower type.

(2) Further object of experiments, to discover criteria of judgments as to combinations of colours. The colours were offered in pairs for consideration. The following criteria were discovered, the total number of cases of the use of each criterion being given in brackets:—

1. Conscious Unification [38], and Dissociation [50].

2. Implicit Dissociation.

(a) Balance of saturation or luminosity [65].

(b) Balance of physiological effects [182].

(c) Compensation of physiological effects [156].

(d) Compensation of character [63].

(e) Dislike of one colour makes the combination unpleasant [108].

(f) Liking of one colour makes the combination pleasant [15].

(g) One colour "spoils" the other [39].

(h) One colour improves the other [52].

3. Colours are liked singly, but disliked together [29].

4. Colours are disliked singly, but liked together [10].

5. Affinity.

(a) Presence of a common element [60].

(b) Harmony of shades of the same tone [113].

6. Consonance and Dissonance [78].

Physiological and Objective Types alone show 2 a, b, c, e, f, g, h; 5 a, b, the last three being shown especially by "Objectives".

Character Type show 1, 2 *d*, and "under unfavourable conditions," 2 *c*. "Material Complications" (associated with dresses, drappings, etc.) was less than anticipated, and no more frequent with women than with men.

In a second set of experiments subjects were asked to select suitable combinations of two colours. Act of choice seemed to make same appreciative attitude impossible for some subjects. Results showed that complementary colours were not generally selected for combination.

C. VALENTINE.

Adam Smith and Modern Sociology: a Study of the Methodology of the Social Sciences. By ALBION W. SMALL. Cambridge: University Press. Pp. ix. 247. Price 5s. net.

A marked tendency of recent studies in the history of Economics has been the revival of interest in the work of Adam Smith. This may have been occasioned in part by the discovery of his Glasgow lectures, in part perhaps by the revolt against the dominance of the Classical School. Thus we have Prof. Nicholson returning to Adam Smith in connexion with problems of organisation of the Empire, and Prof. Small in relation to sociology and economics. In the latter work it is urged that "segregated sciences are becoming discredited sciences," and an attempt is made to re-state Adam Smith's standpoint on social welfare as a whole, as a result of which it is contended that modern sociology aims at taking up the larger programme of social analysis and interpretation which was implicit in Adam Smith's moral philosophy. It may well be doubted whether the material adduced is sufficient to justify the conclusion, for instance, about sixteen pages are deemed sufficient to explain Adam Smith's ethical standpoint—surely if the "programme" of modern sociology is implicit in Adam Smith, that "programme" must be meagre if it can be dismissed so briefly. Besides, as yet sociology is far from being sufficiently developed to subsume all the work that has been accomplished by successive generations of economists. The writer of this essay, to some extent, anticipates this objection by dismissing the more exact economics by describing it as "technology," but to call a thing technical too often is a mere confession of impatience. Co-ordination in the social sciences may be desirable, but accuracy is even more important.

This study shows great freshness in the point of view and vigour of characterisation. Thus the classical school is described as "industrial positivism, but social fatalism," "nineteenth century economic theory was at bottom an attempt to discover the principles of honourable prudence, not to codify a policy of predatory greed". On the other hand, expressions such as the following are no doubt forcible, but they either offend in taste or miss the truth by hiding it in a mass of exaggeration—"the *a priori* political philosophy which, from Plato down, imposed upon social theory one of the stupidest *dei ex machina* in the whole Walhalla of superstition, that inflexible monster of pedantic imagination, sovereignty," "the pitiable shallowness of the *laissez faire* theory," "there is no fig-leaf of economic shame discreetly drawn over Smith's admission that all the products of labour belonged to the labourer till private property in land and the accumulation of stock made a new situation".

W. R. SCOTT.

The Fundamental Problem of Metaphysics. By JAMES LINDSAY, D.D. Edinburgh and London: Blackwood, 1910. Pp. xii, 135.

This little book consists of three chapters, dealing respectively with metaphysics as a science, the problem of substance, and the problem of cause.

Dr. Lindsay's learning is the admiration of all readers of his writings, and in this book he has brought together the views of an extraordinary number of authorities, ranging from Heraclitus to McTaggart, and including most of the mediæval thinkers; and these are interspersed with passages of terse and sometimes pregnant criticism. The general result, however, is not quite satisfactory. Dr. Lindsay, in fact, appears to have attempted to cover too much ground; to compress into 120 small pages a general discussion of these topics, together with a summary of the views on substance and causation of the principal ancient and modern philosophers, is no easy task. The style is exceedingly abrupt and at times obscure, and many passages consist of isolated dicta rather than of continuous argument. Nevertheless there is much in the book that is suggestive and illuminating, and the author has the merits of an open mind and of sympathy with many different spheres of thought. His own views will be familiar to readers of his *Studies in European Philosophy*. His general position is that of spiritualistic monism; but he is anxious to preserve the reality of finite personality, and insists that metaphysics must be ultimately ethical in character, while at the same time it must be rigorously scientific in method. The longest and much the best chapter is the last, on the metaphysics of cause, which is notable for the way in which it brings together metaphysical and scientific conceptions. But the book should have been on a larger scale; as it is, the sudden transitions from one writer to another are somewhat bewildering, and many points call for further development.

J. B. PAYNE.

Experiments on Mental Association in Children. By ROBERT R. RUSK.
Reviews the work of Ziehen and Meumann on similar topic.

The author performed experiments upon twenty-two boys in Cambridge, between seven and a half and fourteen and a half years of age. He tested "Free Associations" with concrete and abstract terms: also "constrained associations"—subject giving subordinate concept, or co-ordinate, cause, part of a given whole, etc. Times taken by a stop-watch. Results contradict statement of Ziehen and Meumann that speed of association increases with age. Order of difficulty, as judged by length of association time, as follows: Causal, longest—then Free Abstracts, Subordination, Superordination, Free Concretes, Co-ordination, Part-whole, Whole-part. More intelligent boys preferred the more difficult series. "Perseverance" of same expression most frequent in younger and less-intelligent subjects. Children were asked to give introspective accounts. Ziehen's assertions as to extraordinary definiteness and vividness of child's imagery confirmed. But no correlation between richness of imagery and intelligence. Marked cases of "Self-projection" occur. Owing to novelty of this in children, special tests were done on children from another school and results confirmed previous experiments. "Self-projection" shown as frequently by the younger boys as by older, one of ten years giving eighty-seven examples out of 110 tests. Thought possible without imagery even in children, and course of imagery may be opposite to that of thought.

C. VALENTINE.

The Transfer of Improvement in Memory in School-children. By
W. H. WINCH.

Three series of experiments. First, Standard III. children tested in Rote and Substance memory: divided into two equal groups on basis of

results. One group (B) was then practised in rote memories, and in final substance memory test this group showed improvement of 21 per cent. on their earlier tests, whereas unpractised group (A) only showed gain of 10 per cent.—ascribed to "growth". And this *added* gain of A was about the same as their improvement in rote memory exercises.

In another series of experiments, one small section of a class showed no improvement in Substance tests after practice in rote work. But these also showed deterioration in rote work itself.

In a third school, the practice was given by means of poetry—while the other group did arithmetic. Practised group show improvement of 27 per cent. in substance memory, while other group only show 21 per cent.

This apparent "transfer" of improvement takes place in spite of fact that very low correlations [$\cdot 2$, $\cdot 26$ and $\cdot 37$] are shown between the rote and substance memory results.

C. VALENTINE.

Primitive Psycho-therapy and Quackery. By ROBERT MEANS LAWRENCE, M.D. Boston and New York: Houghton, Mifflin Co., 1910. Pp. x, 276. Price 82.00.

The thesis of this book is that the efficiency of many primitive therapeutic methods, and the success of charlatanism, are to be attributed to mental influence, to 'suggestion'. What suggestion is, Dr. Lawrence makes no serious effort to inform us; the unconscious mind and the subjective mind move unquestioned across his pages, and Janet and Münsterberg are bracketed with less reliable authorities. However, he writes sensibly and entertainingly, from a wide range of reading, upon a great variety of subjects: amulets, talismans, relics, phylacteries, incantations, healing-spells, styptic charms, the touch for the king's evil, the virtues of blue glass, metallo-therapy and the influence of the magnet, the healing power of music, and so forth. The book ends with a discussion of quacks and quackery, and an Appendix sketches the life-histories of 'some noted irregular practitioners,' viz., Paracelsus, Cornelius Agrippa, Cardan, Cagliostro, Greatrakes, van Helmont, Fludd, Nostradamus, Lilly and Gassner. There can be no doubt that the work will have a wholesome effect upon the public for whom it is intended.

P. E. WINTER.

VII^{me} Congrès International de Psychologie (Geneva, 2nd-7th August, 1909): *Rapports et Comptes Rendus*. Published by Ed. Claparede. Geneva: Librairie Kündig, 1910. Price 20 frs. Pp. 877.

The reports and discussions prearranged by the Committee of the Congress form the most important part of this bulky volume. They are the following: A.—The Subconscious. (1) *Max Dessoir*. "Das Unterbewusstsein" (pp. 37-56). [The connexion between mental states, not these themselves, differentiates conscious and subconscious. In the total consciousness of a moment there is a centre and a periphery. Contents of the latter form the subconscious personality when they become independent. The difficulty is to say when a new connexion of states becomes a new personality. In the subconscious state an important general generative motive is the change of general, including visceral, sensitivity. There are many minor motives. Weakening of the dominating centre of personality by any means is also important.] (2) *Pierre Janet*. "Les Problèmes du Subconscient" (pp. 57-70). [Tries by comparison of extremes and intermediaries to show that the subconscious-

ness of the hysterical is only a form of psychasthenic depersonalisation.] (3) *Morton Prince*. "The Subconscious" (pp. 71-97). [The second intelligence declares that it is conscious; we must accept its word, as we accept that of another person. There is, however, question whether the two alternate or are synchronous.]—Discussion. B.—Religious Psychology. (1) *Harald Høffding*. "Problème et Méthode de la Psychologie de la Religion" (pp. 106-117). ["Tant que l'homme est—ou croit être —le maître absolu de son sort et de celui de ses valeurs, il n'aura pas de religion. La condition de la religion est l'expérience d'une limitation et d'une dépendance relativement à un ordre de choses plus vaste que la volonté et des facultés humaine, et le besoin d'assurer, même au delà des limites de notre pouvoir, l'existence et la continuation de ce qui a de la valeur. Les natures actives et capables d'agir sont souvent irréligieuses: tout entières préoccupées de travailler à la conservation de la vie ou à celle du beau, du vrai et du bien, il ne leur reste ni le temps, ni la force de nourrir des sentiments et des tendances qui se rapporteraient, non pas aux valeurs elles-mêmes, mais au sort de ces valeurs" (p. 108 f.). The principal points of view to be included in every attempt to characterise a religion are (1) the values or goods man desires to assure or suppose assured, (2) the character and scope of man's comprehension of his natural environment, (3) the national or individual experience of the relation between the supreme goods and the reality of life. The possibility of a precise psychological characterisation of religion arises only when religion itself becomes a problem.] (2) *James H. Leuba*. "Psychologie des Phénomènes Religieux" (pp. 118-137). [Religion is "cette portion de la lutte pour la vie qui se fait avec l'aide de certaines forces de l'ordre spirituel. C'est un des moyens découverts par l'homme pour vivre mieux et plus abondamment; c'est une méthode de vie." The methods of religion are those of science and philosophy.] Not the least interesting part of this symposium is the discussion which followed these papers (pp. 137-182), which lasted for six séances and was entered by thirty-one different persons. C.—Psychologie des Sentiments. (1) *Oswald Külpe*. "Zur Psychologie der Gefühle" (pp. 183-196). [A summary report.]

H. J. WATT.

(To be concluded.)

Received also :—

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- A. D. Lindsay, *The Philosophy of Bergson*, London, Dent & Sons, 1911, pp. viii, 247.
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VIII—PHILOSOPHICAL PERIODICALS.

PHILOSOPHICAL REVIEW. Vol. xx., No. 2. **C. M. Bakewell.** 'The Problem of Transcendence.' [Current discussion insists on three things: respect for the facts of finite experience, acceptance of the validity of time, and—what is fundamental—recognition of the transcendent. But can positive significance be attached to the problem of transcendence? Not if we start out from ready-made philosophical distinctions, and assume as transcendent, forthright, the 'world' and the individual lives of our fellows. The objective world is simply my own experience locked fast in the principle of identity, and therein and thereby recognised as literally one with the experience of any other conscious being that can plan and strive; it is thus not something beyond my experience, but an interpretation of that experience. The only real transcendent being is the free inner life of my fellow-men: idealism becomes a sort of monadology, in which the lives of the monads interpenetrate so far that they all possess in their several experiences an identical world, at the same time that they possess private appreciations, purposes and ideals; growth in intelligence, as in civilisation and culture, is marked by the extent to which each individual, each ego or centre of conscious experience, is able to enter into the experience of others precisely as it is for them in their own inner lives.] **E. B. McGilvary.** 'The "Fringe" of William James' Psychology the Basis of Logic.' [We may define idea as an experienced complex made up of content and fringe; the fringe, which is the meaning of the idea, is an experienced relation terminating in a definitely discriminated gap. The missing something to which the meaning points is the object of the idea; the assumption of the existence of its object, beyond the limits of the experience in which the idea exists, is the objective reference of the idea. (The presence of things-meaning, in the absence from present consciousness of things-meant, is accepted from James, as against Dewey.) This assumed existence is a temporal-spatial relatedness; the experience-continuum thus assumes itself to be part of a larger universe (universe of naïve experience) in which the objects that correspond to its ideas exist in definite situations. Now, in course of time, comes the experience of falsity; and thereafter and thereby that of truth as truth. But the proving-false of an idea is possible only because the assumption of an extra-experiential prolongation of intra-experiential time has been realised. So we arrive at the real universe of experience, whose assumption is confirmed by the confirmation or falsification of every specific idea. The acceptance of the truth of this idea of a real universe of experience (without the reservation that every part of it is in *some* experience, or is itself *an* experience, or that the whole is in *one* all-inclusive experience) is realism. James defined truth as an affair of leading, partly because he saw no other escape from mystery, partly because he was temperamentally averse to a predetermination of the future. But there is a non-pragmatic correspondence, sometimes experienced and sometimes assumed, between ideas and realities, which can be assigned

and described in intelligible terms on the basis of James' own treatment of ideas; and Reid has met the difficulty of predetermination. The doctrine of the fringe is a brilliant and substantial contribution to logic, but James failed as logician to see the significance of his own achievement.] **F. H. Bradley.** 'Faith.' [The general essence of faith appears to be a non-logical overcoming (or prevention) from within of doubt as to an idea. A narrower definition would make faith exist so far as an idea is a principle of action, whether theoretical or practical; but neither in origin nor in result is faith necessarily active. (Religious faith must be exercised in conduct, and the practical exercise of a belief must react on its origin; but we have no right to argue from religious faith to faith at large.) Philosophy must in a sense depend on faith, since we do not rest on a datum, fact or axiom, but rather on a principle of action; and since, further, philosophy cannot justify its principle in detail and throughout. But the precise meaning attached to faith, so long as the word has some definite sense, is not of importance; and the question whether or not philosophy in the end rests on faith is of no consequence.] **F. Thilly.** 'Proceedings of the American Philosophical Association; the Tenth Annual Meeting, Princeton University, 27th to 29th December, 1910.' Reviews of Books. Notices of New Books. Summaries of Articles. Notes.

PSYCHOLOGICAL REVIEW. Vol. xvii., No. 6. **T. V. Moore.** 'The Influence of Temperature and the Electric Current on the Sensibility of the Skin.' [The limen of duality decreases from the lower temperatures up to about 36° C., and increases as the temperature rises beyond that limit. This change expresses simply the variation in intensity of stimulus due to varying skin-temperature: for (1) at various temperatures strong pressure gives a smaller limen than weak, and (2) the minimal pressure-limen lies between 35° and 38° C. As regards the direct current, Pflüger's Law holds: sensibility is decreased at the anode, increased at the cathode; though with currents too strong or too weak the anodic or cathodic effect, respectively, may prevail. Immediately after faradisation, the limen both for pressure and for pain is raised: "a touch-spot is under these conditions transformed into a pain-spot". The writer explains his results by the law that the cutaneous sensibility is a function of degree of dissociation in the tissues: "the maximum sensibility for touch and the maximum of muscular irritability are both found at the temperature of greatest dissociation"; the diverse functions of muscle, nerve and sense-organ are alike dependent upon the concentration of ions in the tissues.] **W. F. Book.** 'On the Genesis and Development of Conscious Attitudes (*Bewusstseinslagen*).' [Experiments on learning to typewrite yielded introspective data for the conclusion that conscious attitudes are nothing more or less than the developed forms of the representative processes or images, operative as directing forces in the early stages of the writing. They thus stand midway between vivid imaginal processes and such internal stimuli as auto-suggestions, as these stand midway between attitudes and instinctive stimuli. Titchener's recommendation of genetic study is therefore justified.] **K. Dunlap.** 'Reactions to Rhythmic Stimuli, with Attempt to Synchronise.' [Finger-movements were made, so far as possible synchronously with the stimuli, in response to series of sounds and lights, given at various rates from about one-third second to about two and one-half seconds interval; the work was done with attention to stimulus, with attention to movement, and under distraction. Apart from special results, there appeared to be a slight but definite tendency to delay the visual as compared with the auditory reaction. Further publication is promised.]

AMERICAN JOURNAL OF PSYCHOLOGY. Vol. xxii., No. 2. **H. M. Kallen.** 'The Æsthetic Principle in Comedy.' [Review of occasions of laughter, characters of the consciousness of the comic, theories of the comic. Beauty is the relation between mind and a certain environment, when the two are adapted to each other harmoniously, perfectly and immediately; the environment is good in itself, an intrinsic and direct excellence. Comedy is a relation of the same kind; but the environment to which we are at once harmoniously and completely adapted is now itself a disharmony, a mal-adjustment; comedy, in other words, is a relation which converts evil into goodness. This definition brings out the truth of current theories (degradation; contrast), and accords with the character of the laughing consciousness (transient; alternative in the sense of restorative, reconstructive).] **L. E. Ordahl.** 'Consciousness in Relation to Learning.' [Report of a series of experiments undertaken to discover the rôle of consciousness in simple modes of learning, the influence of distraction on the progress of a habit of whose existence and development one is unconscious, and the influence on learning of unnoticed or minimally conscious aids. The experiments cover a wide range: learning of nonsense syllables, with unnoticed concomitants; comparison of lifted weights (motor *Einstellung*), with and without distraction; throwing at a target; writing in unusual ways (left-hand, mirror script); mental multiplication of large numbers. (1) The unnoticed aids have no effect on learning. (2) In the case of simple muscular co-ordinations, in which consciousness is normally focussed on the end, learning can progress without consciousness either of the end or of the fact that one is learning; attention to the task, however, gives better results than work under distraction. (3) In all learning, there are unconscious as well as conscious factors: the former consist in the fixing of association by practice, and the cropping-up of modifications of behaviour that consciousness may later utilise. The more intellectual and highly conscious the material to be learned, the more direct is the conscious control. Consciousness corrects, eliminating errors; improves on elements unconsciously developed; and organises the whole procedure. Practice assists by focalising common features, and so paving the way to new generalisations; and by mechanising details, and so leaving attention free for further difficulties.] **H. M. Clarke.** 'Conscious Attitudes.' [Report of experiments undertaken with a view to the analysis of conscious attitudes (*Bewusstseinslagen*): reading of blind script; introspection of meaning of words, sentences and paragraphs; introspection of answers to questions requiring and not requiring 'thought'; completion or recognition of verbal and other relations. (1) Incidental analyses are frequent: thus, in the work with point-letters, over 400 attitudes are specifically reported, and 300 of these are more or less completely analysed. (2) When the attitudes occur often enough for generalisation, there is marked agreement between different observers, and for the same observers at different times: the instances given are surprise, seeking (search), and doubt (hesitation, uncertainty), for all of which typical 'patterns' of consciousness may be made out. (3) For the same observer, there is a graded series of steps from vivid and explicit imagery to the vague and condensed consciousness which has been named 'imageless': the instances given are the consciousness of task (*Aufgabe*), recognition, understanding, and the 'feeling' of relation. In sum, the attitudes may be resolved into sensations, images and feelings, or traced genetically to such analysable complexes.] **C. E. Ferree, R. Collins.** 'An Experimental Demonstration of the Binaural Ratio as a Factor in Auditory Localisation' [(1) Observers having a natural difference in the sensitivity of the two ears show a constant tendency to displace the sound in the direction of the better ear; other observers show

no tendency to right or left displacement. (2) Changes in the ratio of sensitivity produced by plugging an ear are followed by corresponding displacements of the sound in the direction of the better ear. Artificial changes are more effective than natural differences of the same order of magnitude; doubtless because the latter have been empirically corrected. (3) A natural right or left tendency may be corrected by changing the ratio of sensitivity of the ears; objectively, the correction is always an under-compensation. (4) The binaural ratio acts both as difference in intensity and as change in timbre, but predominantly as difference in intensity. (5) Individual preferences of localisation were neither capricious nor variable over a period of seven months.] F. M. Urban. 'A Reply to Professor Safford.' Book Reviews. Book Notes.

ARCHIVES DE PSYCHOLOGIE. Tome x., Nos. 2-3. A. Michotte et E. Prum. 'Étude expérimentale sur le choix volontaire et ses antécédents immédiats.' [A contribution to the descriptive psychology of the will, which at the same time throws light upon the problems of causality, *i.e.*, upon motivation (connexion of motives and end) and determination (reference of other factors, *e.g.*, of moment of realisation, to their conditions). The method is that of reaction; the observer is shown two numbers, which permit of various mathematical operations, and is instructed to make a choice 'for serious reasons' between, say, multiplication and division; having chosen, he is to react. All observers agree that the experiences are 'voluntary,' akin to the will-consciousness of everyday life, and markedly different from simple judgment or apprehension and from automatic choice. There is no consciousness of non-realisation of the choice (such a consciousness renders true choice impossible); on the contrary, the movement of reaction symbolises the realisation, introduces a fictitious realisation of the choice.—Part i. (qualitative data) divides into two sections, entitled Determination and Motivation. The first describes the perception of stimulus and the consciousness of instruction; the course of discussion of motives; the immediate preparation for choice; and choice itself. The period of preparation contains, on its subjective side, the consciousnesses of doubt (hesitation, oscillation) and of waiting (suspense), together with a general muscular tension (experienced chiefly in the reacting finger and the chest; there is change of respiration), and, on its objective side, with more or less frequency, a representation of one alternative (in interrogative form) or of both alternatives (verbal-imaginal or intentional), a consciousness of instructions (intentional), and various awarenesses or judgments bearing upon the motivation. Characteristic of the final period, of choice itself, is the 'action-consciousness,' the consciousness of doing, acting, designating, turning toward, etc. This is not a content, alongside of other contents; it is a mode or character, involving a substrate which it qualifies. It is the only observed form of the intervention of the phenomenal self in the experiences under discussion. Finally, it is the distinguishing mark which differentiates voluntary from all other forms of action. A review of current psychologies shows that it is clearly recognised by Lipps (whom none of the observers had read), and has much in common with Wundt's *Gefühl der Entscheidung*. The second section, on Motivation, discusses the motives from the point of view of content and of form. The objective motives are of two kinds, intrinsic and extrinsic. The first group includes representability and ease-difficulty (for this latter, no less than ten grounds are distinguished); the second, consciousness of the rarity of choice of some operation, the idea of time, and the implicit consciousness of objectivity. The subjective motives are active tendency, passive impulsion, and repulsion. As regards the theory of motivation (intellectual *v.* emotional theories) one

must proceed with caution. The majority of motives in the present investigation are judgments of value, whose predicate is not the value itself, but its ground ('this is easy'); sometimes, a motive originally intellectual will take on affective colouring; if agreeable and disagreeable feelings are often concerned in the motive value of a concept, they are still no more than contributing factors.—Part ii. brings us to a quantitative consideration of the data; its two sections are entitled Discussion of Motives, and Choice. Here we learn, *e.g.*, that the two principal observers, though their manner of discussing the alternatives is typically different, have approximately the same average reaction-time; we are given the percentages, for the various arithmetical operations, of the two modes of preference, the spontaneous and the analytical (the latter depending on an analysis of the stimulus from the point of view of a particular operation); etc., etc.—A *Note complémentaire*, by A. Michotte, compares the results of the present study with those of Ach and Bovet. Agreeing with Bovet on many important points, the writer rejects his identification of the consciousness that 'one must' with the consciousness of passivity, and of this, again, with the consciousness of receptivity, inertia, automatism. As regards Ach, he finds that the 'action-consciousness' is clearly identical with Ach's 'aktuelle Betätigung,' 'aktuelles Moment,' 'das Vornehmen selbst'. There is, however, a difference (due to experimental conditions) in that Ach's 'gegenständliches Moment' does not appear. This objective moment the writer regards as a pure volition (*vouloir pur, disjoint*), subject, as voluntary acts are not, to the 'determining tendencies'.]

REVUE DE PHILOSOPHIE. 1^{er} Février, 1911. A. Humbert. 'Structural Evolution of Language according to Wilhelm Wundt.' [Evolution applied to parts of speech.] A. Gemelli. 'The Notion of Species and Evolutionist Theories.' [Discoveries of Vries and Nilsson. These 'recent studies on the limits of variability have by this time convinced many naturalists that, while admitting the principle of evolution of living forms, we must still regard species as an entity, objectively definable and constant, notwithstanding the variation of the individuals that constitute it within a given time'.] A. Gomez Jiquierdo. 'The Philosophy of Balmes.' [According to Balmes, the only element of the external world that we objectivise by means of representation, and of which the reality is independent of the subject, is extension and its modifications.] E. Peillaube. 'Formation of Abstract and General Ideas.' [Peripatetic abstraction considers a quality, not independently of another quality, but independently of its individual and concrete characteristics.]

ZEITSCHRIFT FÜR PSYCHOLOGIE. Bd. lvii., Heft 3. R. Mueller-Freienfels. 'Zur Psychologie der Erregungs- und Rauschzustände' [The normal flow of consciousness is interrupted, from time to time, by states of excitement or intoxication, which we ordinarily refer to, in loose terms, as states of enhancement or intensification of consciousness. These states deserve a closer study. (1) They show marked characteristics on the affective side, ranging from a pleasurable mood to a full-fledged, pleasurable or unpleasurable, seizure of emotion (unpleasurable, —for in accesses of rage, and in certain phases of imaginative fear, there is definite enhancement of the total vital feeling), with accompanying changes of respiration and circulation. Many instances are given, and modes of induction are briefly touched upon. (2) On the intellectual side, these states are distinguished by increased clearness of ideas (it is doubtful whether they involve any change in perception), by a quick-

ened tempo of the conscious life (though oftentimes a summarising process, with suppression of the transitive states, may simulate richer and fuller plays of association), and at their best by an enhancement of attention. They are of two kinds: æsthetic, existing for their own sake, and teleological, aiming at some extrinsic end. (3) The states in question are produced by works of art: rhythm, and music in general, act chiefly upon the feelings; poetry makes a mixed appeal, to imagination and to feeling; the effect of painting is mainly intellectual (a single impressive idea replaces the discursive imagination of poetry), though the affective influence is not lacking. Moreover, the state of artistic creation is itself closely akin to the states under discussion; we hear of an hallucinatory clearness of ideas, of a wealth of imaginative suggestion; the difference lies, not in contents, but in predetermination of consciousness.] *Literaturbericht. Die Zeitschrift für Sinnesphysiologie.*—Bd. lvii., Heft 4. **O. Selz.** 'Die experimentelle Untersuchung des Willensaktes.' [Critical review of Ach's *Ueber den Willensakt und das Temperament.*] **A. Guttmann.** 'Anomale Nachbilder.' [Examination of the after-images of spectral lights, in the case of members of the writer's 'anomalous' class, showed that, while direct vision is trichromatic, the after-image reaction is strictly dichromatic. No explanation of this result is attempted. The writer insists (1) that the use of the spectrum is necessary, since a test with coloured papers gave after-images in the sense of trichromatism, and (2) that no reliance can be placed upon verbal reports, since marked differences of colour-nomenclature were proved by the test of colour-equations to be meaningless.] **F. Hillebrand.** 'Zur Frage der monokularen Lokalisationsdifferenz; Schlusswort gegen St. Witasek.' [Repeats and maintains the contention that Witasek's results were due to heterophoria.] *Literaturbericht.*

ARCHIV F. D. GESAMTE PSYCHOLOGIE. Bd. xvii., Heft 1 und 2. **L. von Kar pinska.** 'Experimentelle Beiträge zur Analyse der Tiefenwahrnehmung.' [The object of the study is to obtain an introspective analysis of the visual perception of the third spatial dimension. After a review of work done on stereoscopy with momentary illumination, the writer reports experiments, in which stereograms or identical figures were exposed for some 1/15 sec. (1) There is first a stage of blank or shock; then the image is seen and judged as flat; then the flat image shows unrest, and the observer infers its tridimensionality; then the image makes a direct impression of depth, but the observer cannot state the direction of relief; finally there is a determinate apprehension of tridimensionality, either pictorial (as of a scene in perspective) or objective (as of a solid object in space). (2) The conscious factors or moments in the apprehension are: attentive emphasis of some part or feature, the noticing of the parts in succession, overestimation of the distance in depth, definite direction of eye movement over the image, unity of the image (subordination of parts; material consistence, æsthetic impression). (3) The condition of primary importance is the associative factor, the mental predisposition of the observer; retinal disparity is a secondary and empirical criterion of depth, which needs a conscious working-over, if the perception of depth is to result. (4) The retinal disparity, which leads by way of association to the depth-perception, must be regarded as consciously effective, only that its conscious aspect is ordinarily overlooked, does not come to clear recognition within the total contents of consciousness. (5) Monocular experiments, made with the verant under the same conditions of exposure, gave a clear and immediate perception of depth. Here is further evidence that retinal disparity is simply an empirical factor in that percep-

tion.] **G. Graf von Wartensleben.** 'Beiträge zur Psychologie des Übersetzens.' [Introspective analyses of the experience of translating Latin words and phrases into German. Translation may be direct, or mediated. If the latter, the interpolated processes may be ideas, feelings or conscious attitudes. Auditory ideas and motor reactions were frequent; visual imagery rare. The commonest attitudes were those of meaning and of familiarity; they might appear in connexion with ideas, or alone; and the attitude of meaning might attach to word, word-group, or entire sentence, the more complex not necessarily implying the presence of the more simple. With increasing frequency of the associative connexion, the ideas decreased, the attitudes somewhat increased in number.] *Literaturbericht.*—Bd. xvii., Heft 3 und 4.

C. Knors. 'Experimentelle Untersuchungen über den Lernprozess.' [Experiments with non-sense-syllables, two-syllable words and 3-place numbers were made upon adults and children (eleven to thirteen years) by three methods: the series was recited, as accurately as might be, after each separate reading; retention was tested, after each separate reading, by the method of right associates; and the series was read through, again and again, till the observer thought that he could recite it correctly. The first set of experiments showed, in general, that memory rises to its task; and, in particular, that the first few repetitions are the most effective, the first being by far the most important, and the second and third usually following in that order. The second set proved to be more difficult for the adults, but easier for the children; the first repetitions are again the most effective, but the very first is of less importance than before, being often equalled by the second. A comparison of these results with those obtained by the regular method brought out individual differences of striking character. The writer proceeds to a discussion of the modes of learning adopted by his observers, and to an analysis of their mistakes, and ends with a list of the advantages that recitation possesses over reading; the chief is that attention may be directed, voluntarily, to the weak places of the series.] **E. Tomor.** 'Die Rolle der Muskeln beim Denken: eine Mitteilung.' [A syllable is thought, while test is made of muscular movements of larynx, tongue, lips and chest. It is found that thought is always accompanied by movement; breathing, e.g. shallows, and the time-ratio of inspiration to expiration changes from 5:6 to approximately 1:4. Mental fatigue is accordingly a matter, not of the nerves, but of the muscles.] **F. M. Urban.** 'Über die Methode der mehrfachen Fälle.' [The method of ideal ranges may be considered a psychophysical measurement method in the strict sense; its results are uniformly related to those of the method of just noticeable differences. As between the error and the graduation methods, we must say that with a large amount of experimental material it can be positively stated whether or not the experimental conditions have varied, whereas with a small amount it is necessary to be content with the assumption that no change has occurred within the brief time covered.] *Literaturbericht.*

A. Vierkandt. 'Literaturbericht zur Kultur- und Gesellschaftslehre für die Jahre 1907 und 1908.' **E. Hirt.** 'Psychologisches in der psychiatrischen Literatur der letzten Jahre: Fortsetzung.' Einzelbesprechungen. [Becher on Semon, *Die menschlichen Empfindungen*; Dannenberger on Ellis, *Mann und Weib*.] *Referate.* **Panconcelli-Calzia.** 'Erwiderung.' [Against Poirot.]—Bd. xviii., Heft 1. **E. Landmann-Kalischer.** 'Philosophie der Werte.' [The paper opens with a criticism of Münsterberg's *Philosophie der Werte*; the writer disagrees with the fundamental doctrine that the validity of all values depends upon their constitutive meaning, and maintains, as against it, that we ascribe value to objects on the ground of the feelings that they arouse in

us, precisely as we ascribe colour to objects on the ground of sensations. But how, on this view, can we account for the fact that our judgments of value claim universal validity and in fact attain only temporal and individual recognition? This question the paper undertakes to answer. A review of the psychology of feeling shows that no one of the alleged differences between feeling and sensation really obtains; affective judgment and sensory judgment are on the same level. Judgments of value may then be objectified; we may seek a definition of value that shall not involve the concept of value, and we shall find it by way of an objective determination of the adequate stimuli to the judgment of value; knowledge of the stimuli to feeling, as accurate as our knowledge of the stimuli to sensation, will furnish the key to individual differences and to constant errors. The claim of the judgment of value to universal validity is thus precisely that of any judgment of perception which aims to be more than a mere subjective impression. Logic, ethics, aesthetics are, very simply, the sciences of the true, the good, the beautiful; they must start out from the fact of value, as their datum, and their problem is to give it a precise and objective definition. A brief review of the status of logic, ethics, aesthetics and dogmatic theology indicates how far, in the writer's opinion, this aim has been attained. The essay then passes to a consideration of the place of values in the world of reality: feeling, it points out, is two-faced, looks towards perception and towards will; and the peculiarity of values is that they condition not only our human view of things as they are, but also the future shaping of things, so far as that lies in human power. Finally, the author insists that, while logical value has a wider sphere of application than any other kind of value, nevertheless all values are independent; this conclusion follows, indeed, from the original thesis that they are data, qualities of things.] **W. Schmied-Kowarzik.** 'Raumanschauung und Zeit anschauung.' [An attempt to refer space and time to their right position within a psychological classification; suggested by the schema of Jodl's psychology. Current theory makes space and time moments or attributes of simple conscious contents. But space is a continuum, and psychological space is a simple continuous content; and phenomenal time is also a simple content, a continuous, one-dimensional, unequivocal manifold. The writer comes to a dual division of the subject-matter of psychology into positive contents and dependent contents. The former heading covers intensive qualities (actual experiences, or ideas, of sensory, affective and appetitive contents) and continua (the *Anschauungen* of space and time); the latter covers judgments, and a new category of intuitions (*Intuitionen*), which will form the subject of a later paper.] *Literaturbericht. Einzelbesprechung.* [Stählin on Starbuck, *Religionspsychologie.*] *Referate.*

ZEITSCHRIFT FÜR PHILOSOPHIE UND PHILOSOPHISCHE KRITIK. Band 141, Heft 2. **Georg Wernick.** 'Einfindung Wahrnehmung und Vorstellung.' **Adolf Reinach.** 'Kants Auffassung des Humeschen Problems.' *Rezensionen, etc.*

RIVISTA DI FILOSOFIA. Anno iii., Fasc. 1, January-March, 1911. **C. Ranzoli.** 'Il Caso.' [The writer fixes on unpredictableness as the most characteristic note of chance occurrences. But this incalculable nature of theirs, so far from negating the law of universal causation, is a direct consequence of its dominion. For if in the vast majority of cases we cannot foresee events, that is a consequence of the complexity and subtlety of the intersecting causal series whence they result. Hence it is unphilosophical to deny the determination of human actions on the ground that they cannot be predicted; and equally unphilosophical to assert

the contingency of physical phenomena by way of providing a broader inductive basis for the affirmation of human freedom. In this analysis, Ranzoli seems to forget that in affirming the casualness of an event what we deny is not that it was caused in general but that it was caused by the event immediately contiguous with it in space, time or imagination.] **Georgio del Vecchio.** 'Sulla positività come carattere del diritto.' [An inaugural address delivered on assuming the professorship of jurisprudence at Bologna. According to Del Vecchio it is an error to deny the existence of Natural Law as an ideal of jurisprudence, and an error also to contrast the immutability of absolute morality with the contingency of legislative enactments. For morality also is subject to conditions of relativity and variation; while positive law, to be accepted and obeyed, needs the approval of the people on whom it is imposed; nor can it be applied in any particular instance by the judge without an appeal to principles of universal validity.] **Corradino Mineo.** 'Logica e Matematica.' [This article raises the question whether the new logico-mathematical theories of Peano and Mr. Bertrand Russell furnish a logical confutation of Kant. The answer is that, so far, by their admission of indemonstrable principles they go to confirm Kant, whose logical agnosticism can only be overcome by the researches of scientific psychology.] **Michele Losacco.** 'La filosofia naturale dello Schelling e le nuove correnti del pensiero.' [An attempt to connect the scientific ideas of Herbert Spencer, Bergson, Ostwald and other modern thinkers with the "Naturphilosophie" of Schelling. Losacco, however, fails to notice Schelling's debt to the electro-chemistry of his own time.] **P. Carabellese.** 'Intuito e sintesi primitiva in A. Rosmini.' [A defence of the writer's interpretation of Rosmini against the criticisms of Gentile.] **C. Tommaso Aragona.** 'Del fatto educativo.' [Notwithstanding the professed realism of this writer, the extreme abstractness of his method, and his large assumptions of native excellence on the side of the pupil and of consummate skill on the side of the teacher are such as to render his painstaking study nearly valueless for practical purposes.] **G. Mazzalorso.** 'La guerra, la pace, e la filosofia.' [A somewhat discursive and inconclusive study, but interesting for the writer's admission that he for his part would prefer a safer and stronger if more modest and less showy Italy.] **Raffaelli Giacomelli.** 'Un teologo e apologeta riformatore della fisica e dell' astronomia.' [Rebukes the rash ignorance of a certain Father Pécsi, professor in a Hungarian seminary, who arguing on behalf of Theism, rejects the First Law of Motion with the authorship of which he credits—or rather discredits—Newton, being unaware that it originated with Galileo.]

IX.—NOTE.

LITERARY NOTE.

PROFESSOR BALDWIN, editor of the *Dictionary of Philosophy and Psychology* (Macmillans), states, in answer to inquiries, that the "new edition, corrected," recently put upon the market, is not a revised edition. The new edition was printed without consulting him, the changes being reported to him as "certain corrections received by the Oxford Press (the printers) after the first edition was printed": that is, certain *corrigenda* have been incorporated. He himself deprecates the use of the term "new edition" for a mere reprint, especially if the date of issue, which is generally taken to be the date of original publication, is changed on the title-page.

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All other Communications for the Editor, except those from America,
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 Professor E. B. TITCHENER, Cornell University, Ithaca, N.Y.
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OCTOBER, 1911.

MIND

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OF

PSYCHOLOGY AND PHILOSOPHY.

EDITED BY

PROF. G. F. STOUT,

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 REPRESENTATIVE, AND OF PROFESSOR WARD, PROFESSOR PRINGLE-PATTISON,
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